Progressive Architecture

improved health standards

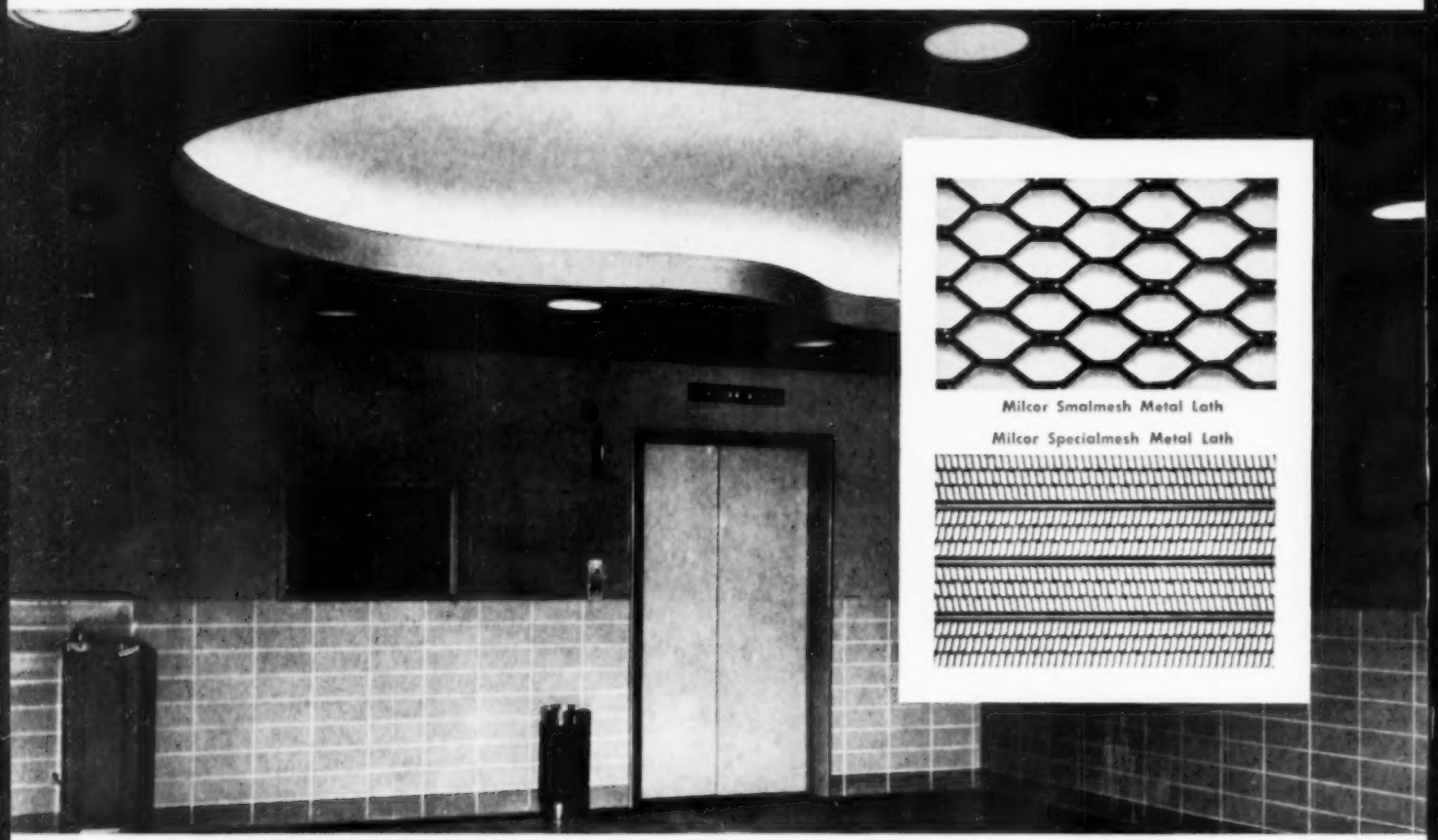
world's largest architectural circulation

7

july 1954

MILCOR* Metal Lath and Plaster

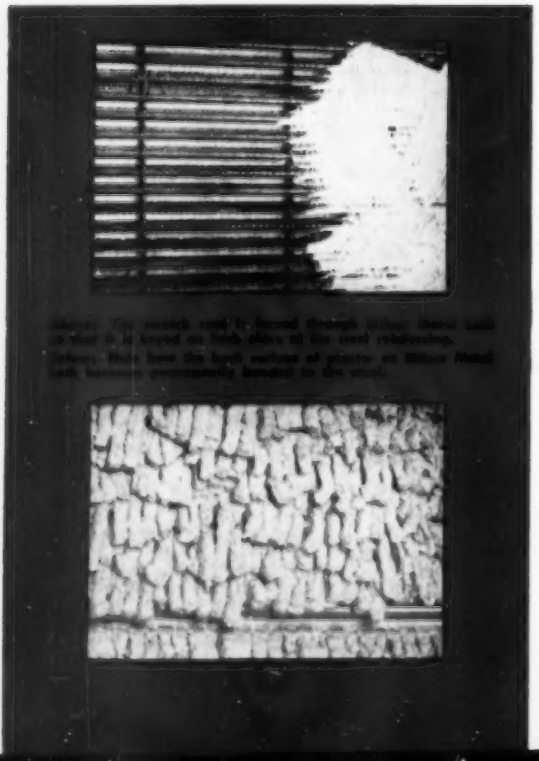
provide the advantages of fire-safety, permanence, lasting beauty



Milcor Smalmesh Metal Lath

Milcor Specialmesh Metal Lath

Misericordia Hospital, Milwaukee, Wis.



Steel-reinforced plaster faithfully expresses your conception of form

Today, there's a renewed appreciation of plaster interiors — and an increased demand for them.

On the drafting board, Milcor Metal Lath and plaster give you unlimited freedom to develop structural forms and shapes.

On the job, Milcor Metal Lath and plaster provide maximum rigidity with light weight. The whole wall and ceiling is held together in one fire-resistant, monolithic slab, free from warping and shrinking tendencies.

That's why so many architects specify Milcor Metal Lath and plaster to give home and building owners the finest wall surface there is, *plaster on a network of steel* — especially where plans call for enclosed heating, ventilating, or air conditioning equipment, or for indirect lighting.

Consult the Milcor catalog in Sweet's for planning help.

Metal Lath for strength—Plaster for beauty

INLAND STEEL PRODUCTS COMPANY

4109 WEST BURNHAM STREET • MILWAUKEE 1, WISCONSIN

BALTIMORE 5, MD., 5300 Pulaski Highway — BUFFALO 11, N. Y., 64 Rapin St. — CHICAGO 9, ILL., 4301 S. Western Blvd.—CINCINNATI 25, OHIO, 3240 Spring Grove Ave. —CLEVELAND 14, OHIO, 1541 E. 38th St.—DETROIT 2, MICH., 690 Amsterdam Ave — KANSAS CITY 41, MO., P. O. Box 918 — LOS ANGELES 58, CALIF., 4807 E. 49th St. — NEW YORK 17, N. Y., 230 Park Ave. — ST. LOUIS 10, MO., 4215 Clayton Ave.

*Reg. U. S. Pat. Off.

M-135E

FAMOUS MILWAUKEE BREWERY

Saves $24,107 in Just Four Years

WITH HAUSERMAN MOVABLE WALLS

Although its modern administrative building is just four years old, the Miller Brewing Company of Milwaukee already has proved that using premium quality materials pays dividends, in modern movable walls just as it does in brewing "the Champagne of Bottle Beer."

Because of the unvarying uniformity of Hauserman *Movable* Walls, constantly changing work area requirements have been met quickly and easily . . . with practically no inconvenience or interruptions of normal business efficiency. Yet office and corridors alike provide a dignified atmosphere of lasting permanence throughout the building. Savings in rearrangements costs to date: $20,453.

Further evidence of premium quality—color that never fades or needs refinishing—has paid dividends, too. Redecorating savings during the four year period: an additional $3,654.

Now, before you move, build or remodel present offices, let us send you the facts about Hauserman premium quality and the savings it can mean to you.

WRITE FOR FREE DATA MANUAL 53! This 96-page comprehensive guide for architects contains complete technical details as well as stock sizes, general instructions and specifications on *all* types of Hauserman *Movable* Interiors. Write to The E. F. Hauserman Co., 7238 Grant Ave., Cleveland 5, Ohio.

HAUSERMAN® *Movable Interiors*

OFFICES • SCHOOLS • LABORATORIES • HOSPITALS • INDUSTRIAL PLANTS

Schacht

TWINSTILE

STAINLESS STEEL DOORS & FRAMES

NOTHING

COULD

BE

FINER

SCHACHT ASSOCIATES, INC.

1175 E. 156th Street • New York 59, N. Y.

pa newsletter

July 1954

American Hospital Association's survey covering nearly half of all U. S. hospitals revealed that estimated $1,165,385,765 billions would be needed to replace obsolete and inadequate parts of physical plants. Greatest total need was estimated by non-profit, short-term hospitals while highest average per hospital ($1,902,659 millions) was in mental and allied group.

Boston Architect George W. W. Brewster received 1954 Boston Arts Festival Architectural Award, given in co-operation with the AIA, for the most outstanding architectural project built in New Enlgand within past five years. Plans, drawings, photos, and scale models of award-winning entry (Gordon Gibbs home, Marion, Mass.) along with those of seven other individuals and architectural firms receiving Honorary Awards were displayed at Boston Arts Festival held June 6 through 20. Jury: José Luis Sert, George Howe, and Burnham Kelly.

Ralph Rapson of the M.I.T. Department of Architecture staff leaves there to head University of Minnesota's School of Architecture. . . . Allen S. Weller, member of University of Illinois Art faculty since 1947, will become second dean of College of Fine and Applied Arts there, September 1. College includes Departments of Architecture, Landscape Architecture, Art, and School of Music.

Last month families moved into 22 new homes, each equipped with different type of year-round air-conditioning system, in Edgewood subdivision of Austin, Tex. Homes are of varying design and structure. One-year study of mechanical, financial, and human problems involved in home weather control will be sponsored by Research Institute of National Association of Home Builders, in co-operation with more than 50 other organizations, including the University of Texas, the Air-Conditioning and Refrigerating Institute, and the National Warm Air Heating and Air-Conditioning Association.

Jury for Producers' Council's Annual Product Literature Competition awarded Certificates of Exceptional Merit this year to Pittsburgh Plate Glass Company, Armstrong Cork Company, and National Concrete Masonry Association. Entries were "New Pittco No. 17 Recessed Sash" (ad) and publications "Armstrong's Floors and Walls" and "Ideas for Wall Patterns with Concrete Masonry." Jury composed of Ben John Small (New York), Richard M. Bennett (Chicago), Edward G. Conrad (Cleveland), D. Kenneth Sargent (Syracuse), and Howard Dwight Smith (Columbus) also awarded several Certificates of Merit and Honorable Mentions.

Early this month PROGRESSIVE ARCHITECTURE moves, with its sister publications in Reinhold Publishing Corporation and Reinhold Book Division, to a new mid-Manhattan location. Reinhold will occupy three floors of the 430 Park Avenue Building, New York 22, N. Y. (described on page 106, May 1954 P/A). All communications should be directed to the new address from mid-July on. Telephone: MUrray Hill 8-8600.

Turn page for WASHINGTON PERSPECTIVE

PROGRESSIVE ARCHITECTURE published monthly by REINHOLD PUBLISHING CORPORATION, 330 West 42nd Street, New York 36, N. Y. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President and Treasurer; Fred P. Peters, Vice-President and Secretary, Gilbert E. Cochran, H. Burton Lowe, Merald F. Lue, William P. Winsor, Vice-Presidents; Kathleen Starke, Assistant Treasurer. Executive and Editorial offices: 330 W. 42nd St., New York 36, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are *architects, engineers, specification writers, designers or draftsmen, or employes of architectural and engineering firms, and* to government departments, trade associations, members of the armed forces, college libraries, college students, publishers, advertisers, prospective advertisers and their employes—$5.00 for one year, $8.00 for two years, $10.00 for three years. Above prices are applicable in U. S., U. S. Possessions and Canada. Latin America and Philippine Republic—$10.00 for one year, $16.00 for two years, $20.00 for three years. All other foreign subscriptions — $15.00 for one year, $25.00 for two years, $30.00 for three years. Single copy — $1.00, special issues — $2.00 per copy. Printed by Publishers Printing Co., New York, N. Y. **Copyright 1954, Reinhold Publishing Corp. Trade Mark Reg. All rights reserved.** **Re-entered as Second Class Matter September 21, 1951, at the Post Office at New York, N. Y., under the Act of March 3, 1879. Volume XXXV, No. 7, July, 1954. In Art Index, Architectural Index.**

ABP

ABC AUDITED PAID CIRCULATION

newsletter

Frederick Gutheim Washington Perspective

Strong building records, notably in housing and industrial plants, are confirming the many earlier predictions of a good construction year. Recession talk is receding. If there were any genuine concern with the economic future, equal, let us say, to that of last February, more anxiety would be expressed over the narrowly conceived, lethargic manner in which General Bragdon is going about his Public Works Reserve assignment for the Council of Economic Advisers. So far the program hasn't got outside of Washington.

As Congress prepares for adjournment and the summer's campaigning begins in earnest, political developments turn uppermost. Washington accepts the probability that the Democrats will pick up enough seats this November to organize both the House and the Senate when the 85th Congress convenes. Lack of a working majority has contributed greatly to the weakness of President Eisenhower's leadership. At this writing, the Senate is evenly divided, and the GOP has a majority of three in the House! The President has been able to show strength only in those areas of government—such as foreign and military affairs—where bipartisan support could be found. He has been weakest when fishing for the support of the radical Republican fringe, most notably in the earlier appeasement of Senator McCarthy. Often he has found his program rescued by Democratic votes. Should the anticipated resurgence of Democratic power in Congress come about, it is quite possible that Eisenhower may become a more effective chief-of-state—at least during the period before the pressures of the 1956 Presidential Campaign develop.

These circumstances also spotlight the political splintering which commenced with the four-party election of 1949 and may find additional expression if Dixiecrats, For American, and other well-defined blocs continue to drift from established party moorings. They also illuminate the question of Congressional supremacy over the Executive, broadening it from simple questions of the abuse of investigative power to such older, and on the whole more substantial invasions of the Executive as tacking Legislative riders on appropriation bills, or writing into laws such procedural requirements that Executive responsibility is nullified. Building programs have been peculiarly subject to such abuses (either by Congressional committees or subcommittees striving to retain project control through approvals). A Presidential veto of the lease-purchase program on precisely such grounds would not be surprising. And if a serious roll-back of Congressional encroachment upon Executive power is attempted, a similar measure—a Presidential veto of specific items in supply bills—would be a popular measure around which supporters could rally.

Heavier expenditures for defense and foreign economic aid are expected, perhaps five to eight billions more. Reverses in southeast Asia leave no alternative. On a recent trip in the midwest I heard much war talk. The upset budget and renewed inflationary pressures are likely events of the near future.

Aftermath of the Supreme Court's decision ending the "separate but equal" doctrine in public education cannot help but result in a general overhauling of school building plans in the states where segregation has been practiced. A generally higher level of building ought to be one result. More important, in the long run, may be changes in educational offering, as schools respond to their enlarged responsibilities.

The housing bill so greatly desired by the Administration is now so battered by special privilege that many of its most sincere supporters believe it should be put over until the next session of Congress. That calm advice runs against the political need to produce, if only in token form, this ingredient of the President's "dynamic program." The outlook for public housing is certainly dim. A certain irony may attach to Senator Capehart's espousal of this cause following Senator Maybank's withdrawal, but it is doubtful if either in the Senate or the probable conference the requisite support can be mobilized. If Republican votes can win victory here it will be by some fancy footwork.

The first group of architects to design State Department buildings include W. W. Wurster (a Hong Kong office building) and Chloethiel Woodard Smith (embassy in Asunción, Paraguay)—top-flight architects whose work is at sharp variance from the glassy, Le Corbusier-derivative school that has dominated this program in recent years. The good advice of Belluschi, Shepley, and Walker is clearly in evidence. One awaits with interest further appointments of this caliber.

One advantage of writing from this city is the opportunity to see the opening exhibition of two decades of the work of that outstanding Brazilian landscape architect, Roberto Burle-Marx. On view here at the Pan American Union until July 12, it will be offered as a traveling exhibition by the Smithsonian Institution. Burle-Marx also makes a lecture tour in the United States during June and July. This fresh manifestation of our interest in contemporary Brazilian design will be reaffirmed this fall when Henry-Russell Hitchcock starts south on his expedition to up-date the excellent "Brazil Builds" show presented by the Museum of Modern Art in 1943.

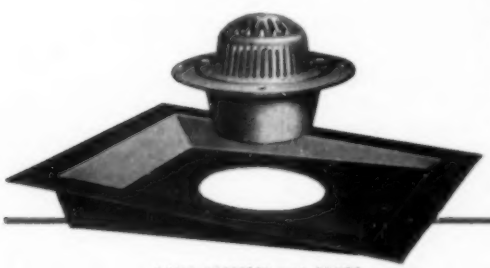
STEEL DECK...

BUILT-UP SADDLES ELIMINATED

Built-up saddles are eliminated in Steel Deck Roofs. Purlins can be set to create valleys at sump locations in the drainage area. Steel Deck can be warped to conform. No additional deck plates are required—no cutting, fitting or bending necessary.

Now Provides SAFEST ROOF at LOWEST OVER-ALL COST in any Locality!

New concept in roof construction adds to Steel Deck's may advantages over other types of deck material. New roof building methods provide effective safeguard against pitch seepage under extreme fire conditions. Now, more than ever before, Steel Deck stands out as the most practical deck material available for permanent, firesafe roof construction. Year after year, Steel Deck roofs a greater percentage of new construction. The reason for this is simple . . . the over-all cost of a Steel Deck roof is less than any other type of roof. Steel Deck's light weight, and the fact that it can be insulated to the exact degree to meet local requirements, permits substantial savings in the supporting structure—total dead roof load will prove to be less than any other type in any given locality. Mahon Steel Deck is available in Galvanized or Enamel Coated Steel . . . stiffening ribs are vertical—no angular or horizontal surfaces where troublesome dust may accumulate. In the enamel coating process, the metal is chemically cleaned, phosphated, and treated with a chromic acid solution to provide paint bond, and the protective coating of synthetic enamel is baked on at 350° F. prior to roll-forming. Consider these extra-value Mahon features. See Sweet's Files for complete information, or write for Catalog B-54-A.



SUMP RECESSES and SUMPS

Mahon Roof Sump Recesses for use with Mahon Steel Deck can be furnished to fit any roof pitch. Mahon Cast Iron Sumps can also be furnished for 4", 5", and 6" conductors.

THE R. C. MAHON COMPANY

Detroit 34, Michigan • Chicago 4, Illinois • Representatives in all Principal Cities

Manufacturers of Steel Deck for Roofs, Partitions, and Permanent Concrete Floor Forms; Insulated Metal Walls of Aluminum, Stainless or Galvanized Steel; Insulated Metal Wall Panels; Rolling Steel Doors, Grilles, and Underwriters' Labeled Rolling Steel Doors and Shutters.

MAHON

multi-vent

LOW VELOCITY AIR DIFFUSING PANELS

. . . for heating, ventilating and air conditioning

Specified where *true comfort* . . . or *accurate control* of air movement, temperature and humidity are demanded.

These prominent companies installed Multi-Vent in offices, plants, and laboratories during the past year . . .

Boeing Airplane Co.	International Harvester	Sharp and Dohme
Cincinnati Gas & Power	Eli Lilly & Co.	Southern California Gas
Dow Chemical Co.	Mead Johnson & Co.	Standard Oil Co. of Indiana
E. I. DuPont DeNemours & Co.	Ohio Oil Co.	State Farm Insurance
Employers Mutual Insurance	Pittsburgh Plate Glass	U. S. Steel Corp.
Ford Motor Co.	Rand McNally & Co.	Utica Life Insurance
General Telephone Co.	Sawyer Biscuit Co.	Westinghouse Electric
H. J. Heinz Co.	G. D. Searle Co.	Yale & Towne

True Comfort: Flush or completely concealed in the ceiling, distributing air at low velocities by gentle pressure displacement, Multi-Vent provides truly sightless, soundless, imperceptible air-conditioned comfort unmatched by any other diffuser.

Accurate Control: Multi-Vent's unique ability to handle very high loads and high ventilating requirements, with uniform, low rate of room air motion, meets the most exacting demands of industrial processing and scientific research. Write for detailed literature.

MULTI-VENT DIVISION
Sales and Engineering Representatives in Principal Cities of United States and Canada

THE PYLE-NATIONAL COMPANY
1379 North Kostner Avenue • Chicago 51, Illinois

ELECTRICAL CONDUIT FITTINGS • INDUSTRIAL LIGHTING FIXTURES • STEAM TURBINES

PROGRESSIVE ARCHITECTURE

pa

July 1954

3 **Newsletter**

4 **Washington Perspective** by Frederick Gutheim

9 **Progress Preview**

15 **Views**

office practice

71 **The Architect's Files: Part 2** by Siegmund Spiegel

73 **It's the Law** by Bernard Tomson

74 **Traveling Exhibition Brings Design to the Public**

improved health standards

78 Introduction

79 **Osteopathic Hospital: Denver, Colorado**
Fisher & Fisher, Architects

82 **Private General Hospital: St. Louis, Missouri**
Joseph D. Murphy, Angelo G. Corrubia, Associated Architects

87 **Air Conditioning: Savannah Memorial Hospital**
By K. R. Goddard

92 **Specialized Clinic: Austin, Texas**
Fehr & Granger, Architects

94 **Clinic/Nursery School: Los Angeles, California**
Walter L. Reichardt, Architect

98 **Group Clinic: St. Louis Park, Minnesota**
Thorshov & Cerny, Incorporated, Architects

102 **College Infirmary: New London, Connecticut**
Shreve, Lamb & Harmon, Architects

106 **New Directions in Thermal Insulation: Part VI**
By Groff Conklin

112 **Six-Story Lift-Slab Building**
By J. Hoogstraten and S. J. Borgford

114 **Spec Small Talk** by Ben John Small

medical group center

115 **Health Insurance Plan Clinic: New York, New York**
George Nemeny, Abraham W. Geller, Basil Yurchenco
Associated Architects

120 **Critique** by Frederick Gutheim

121 **Selected Detail:** Stairs

122 **Architect's Details:** Wall Sections

125 Interior Design Data by Page Beauchamp

126 **Lobby**

128 **Staff Lounge/Conference Room**

129 **Waiting Room, Consulting Room**

130 **Interior Design Products**

139 **Manufacturers' Literature**

145 **Products**

153 **Out of School** by Carl Feiss

180 **Reviews**

188 **Jobs and Men**

222 **Advertisers' Directory**

224 **P.S.**

Editorial Staff

Thomas H. Creighton
Editor

Charles Magruder
Managing Editor

George A. Sanderson
Feature Editor

Burton H. Holmes
Technical Editor

John Kyle
Associate Editor

Margaret Bernstein
Valerie Butta
Anne Fallucchi
Barbara Lunsford
Hilda Ottway
Erika Sattler
Assistant Editors

Stamo Papadaki
Art Director

Elmer A. Bennett
Drafting

Page Beauchamp
Interior Design Consultant

Executive & Business Staff

Brad Wilkin
Publisher

Frank J. Armeit
Production Manager

John N. Carlin
Circulation Manager

H. I. Sirota
Promotion Manager

James T. Burns, Jr.
Service Manager

NEVER Ventilate a Ceiling or Wall Space to the Inside...

If you do, the better the insulation, the worse will be the condensation; for the colder the air in the space between insulation and roof, or walls, the less vapor can it support.

In new construction, moisture is evaporating from many tons of cement and plaster. Vapor flows from areas of greater density into this small, cold space, an area of less vapor density and small vapor capacity.

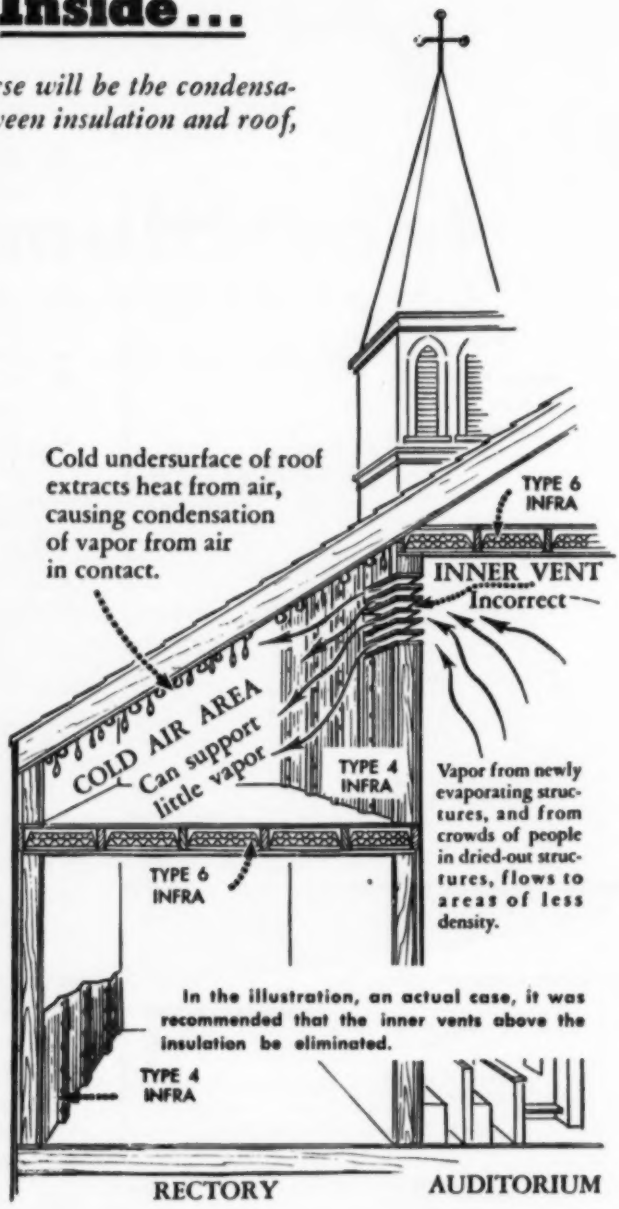
Where multiple accordion aluminum is used, fortuitous vapor and water (for instance rain) will gradually flow out, as vapor, through exterior walls and roofs as vapor pressure develops within. The vapor cannot back up through the continuous, impervious aluminum. It will flow out because walls and roofs have substantial permeability, by comparison far greater than the required 5:1 ratio. Infiltration under the flat stapled flanges of multiple accordion aluminum is slight.

Unusual amounts of vapor, as from crowds in theatres, churches, schools, stores, etc. must be adequately vented to the outside.

The new multiple accordion aluminum* Infra Types 6-S and 4-S forms a continuous blanket of uniform thickness between joists, giving the entire area maximum protection against heat loss and condensation formation. Write for samples.

The U.S. National Bureau of Standards has prepared a helpful and informative booklet, "Moisture Condensation in Building Walls" which discusses causes and cures. Use the coupon and we will send a free copy.

*Patent applied for


Cold undersurface of roof extracts heat from air, causing condensation of vapor from air in contact.
TYPE 6 INFRA
INNER VENT Incorrect
COLD AIR AREA
Can support little vapor
TYPE 4 INFRA
Vapor from newly evaporating structures, and from crowds of people in dried-out structures, flows to areas of less density.
TYPE 6 INFRA
In the illustration, an actual case, it was recommended that the inner vents above the insulation be eliminated.
TYPE 4 INFRA
RECTORY
AUDITORIUM

COST OF INFRA INSULATION INSTALLED
in new construction between wood joists, material with labor,

Type 6-S under 9½¢ sq. ft.
Type 4-S under 7½¢ sq. ft.

INFRA INSULATION INC. Dept. P 7
525 Broadway, New York, N. Y.

☐ Please send FREE U.S. Bureau of Standards Booklet BMS63

☐ Please send samples

Name_____
Firm_____
Address_____

INFRA INSULATION, INC., 525 Bway., New York, N. Y. WOrth 4-2241

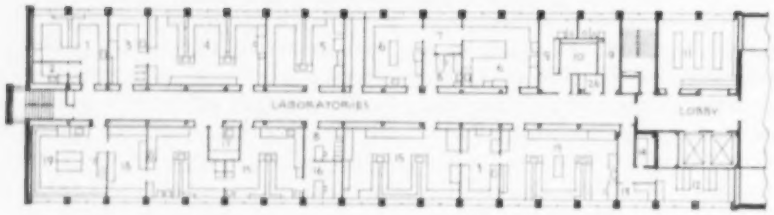
county hospital laboratory and mortuary

After nearly 15 years of discussion and evaluation of the need for a modern laboratory and mortuary facilities to serve hospitals and county medical examiner in Brooklyn, New York, the design for a well-studied structure (*illustrated here* and *overpage*) has recently been completed by DeYoung, Moscowitz & Rosenberg, Architects, New York. Construction is expected to begin later this year. The project is under supervision of Department of Public Works, City of New York.

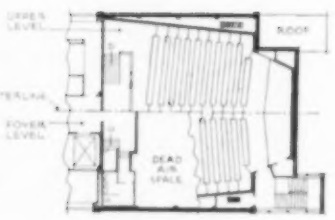
The site is just across a service street from Kings County Hospital, a 3800-bed institution, and it is proposed to connect the new and old buildings with a glazed bridge on the level to provide most convenient access from operating rooms to surgical tissue rooms of the pathology floor in the laboratory. This bridge also will carry TV cables from operating rooms to the lecture hall in the new buildings, where students will be enabled to view operating procedures and techniques. Similar provisions will be made to transmit from the autopsy amphitheater to the lecture hall. Major traffic and services between the new and old structures will be through a tunnel under the hospital street.

The laboratories—to operate on a 24-hour schedule—will be used for routine clinical and diagnostic duties as well as special studies of virus diseases, etc. Separation of facilities for homicide and hospital activities was required in certain facilities, such as the ground-floor morgue.

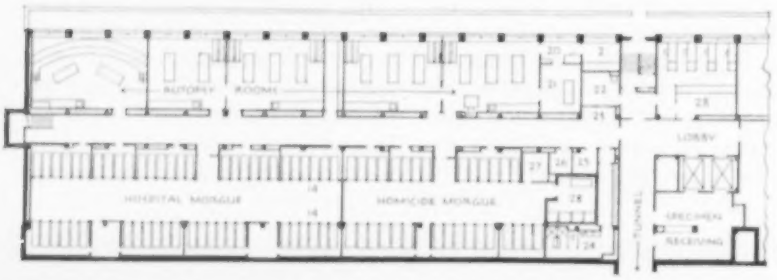
In the lecture hall (right) *the activities in operating rooms and autopsy amphitheater* (bottom of page) *will be watched by TV. A typical laboratory is shown* (below). Renderings: Schwartz



Ground Floor



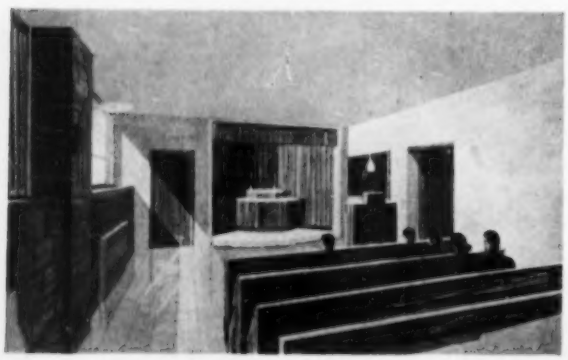
Lecture Hall SECOND FLOOR EAST



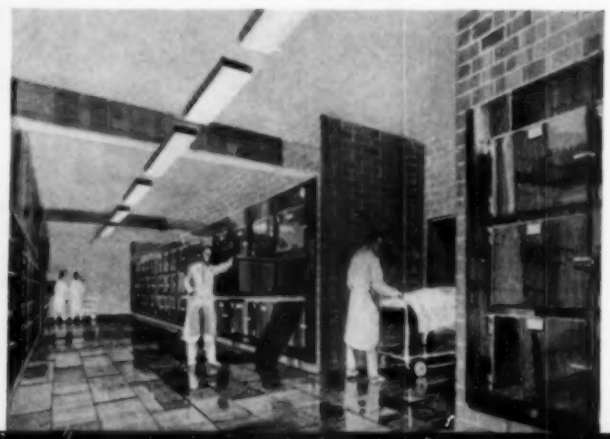
Ground Floor

1 PHYSICAL CHEM. PREP.
2 DARK ROOM
3 GLASS WASHING
4 TOXICOLOGY
5 SPECIAL LAB.
6 CLINICAL PATHOLOGY
7 CHIEF TECHNICIAN
8 SECRETARY
9 LOCKERS AND TOILETS
10 REST ROOM
11 MUSEUM
12 CHEMICAL STORAGE
13 PAPER STORAGE
14 REFRIGERATOR
15 ROUTINE LAB.
16 CHIEF CHEMIST
17 FLAME PHOTOMETER
18 BALANCE ROOM
19 PHYSICAL CHEM.
20 PHOTOGRAPHER
21 X-RAY
22 VIEWING ROOM
23 BODY ALCOVE
24 MALE EMPLOYEES
25 CLEAN LINEN
26 JANITOR
27 COMPRESSORS
28 MORTUARY OFFICE

scale: 25 feet 0 5 meters



The chapel (left) *will have a revolving sanctuary, to accommodate three rituals. The morgue gallery* (below) *and autopsy amphitheater* (below left) *are on the ground floor.*



steelbilt show case for shoppers

Federal's glass-enclosed annex juts out like a giant show case to lure shoppers. It has powerful attraction in a hotly contested merchandising competition at Westgate Shopping Center.

This magnificent sweep of glass, fixed and sliding, is framed in steel engineered and fabricated by Steelbilt. Mandatory requirements for easy sliding action and maximum weatherseal were fully met.

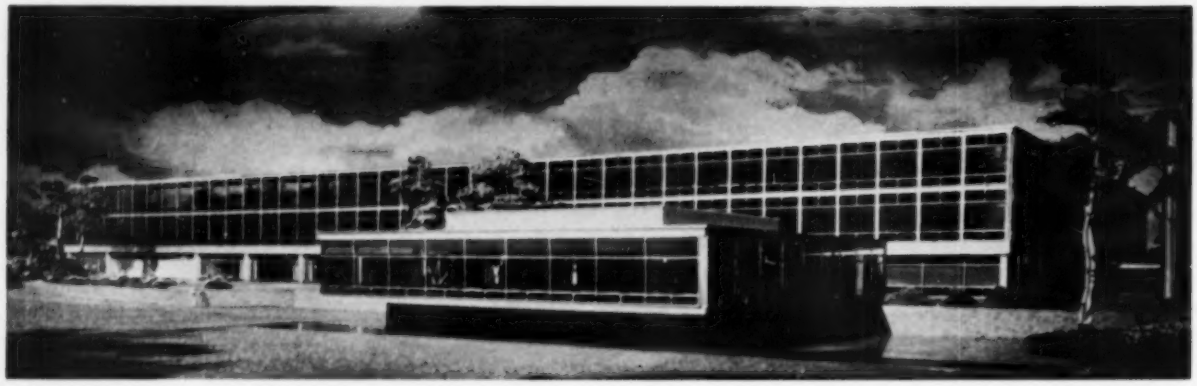
Steelbilt's 20 years of experience in framing large areas of glass ranges from residential to complete curtain wall systems. Consultation is freely offered.
Only Steelbilt offers a choice of bottom roller or top roller-hung types for sliding glass doorwalls and matching windows.

See Sweet's Architectural File or write for literature and the name of the Steelbilt dealer nearest you.

STEELBILT

Steelbilt, Inc.

Gardena, California



Photos: Ezra Stoller

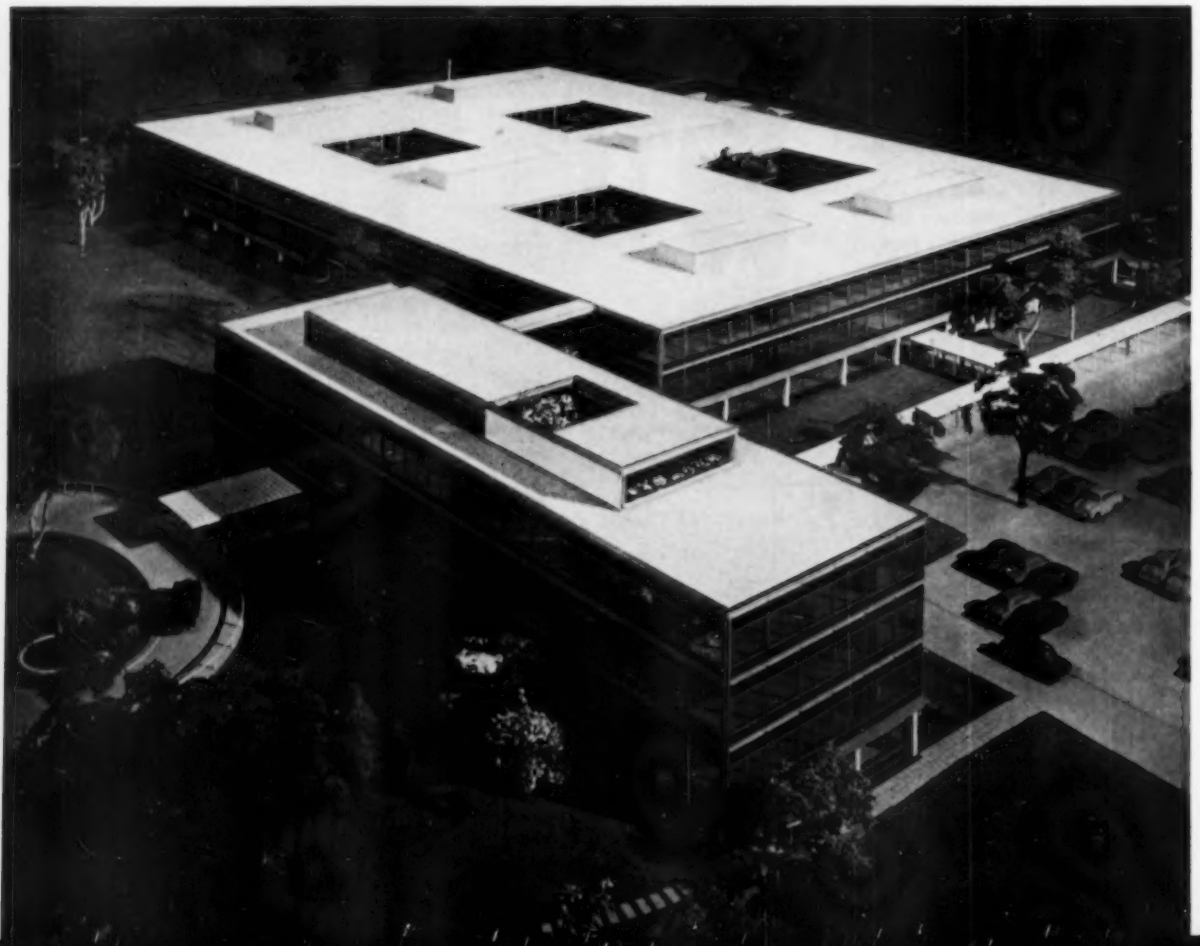
insurance company home office buildings

Construction of spacious new home offices designed for the Connecticut General Life Insurance Company of Hartford by Skidmore, Owings & Merrill, Architects-Engineers of New York, Chicago, and San Francisco, has begun on a 268-acre site in suburban Bloomfield, Connecticut. Turner Construction Company is the general contractor for the job, expected to cost more than $10 millions.

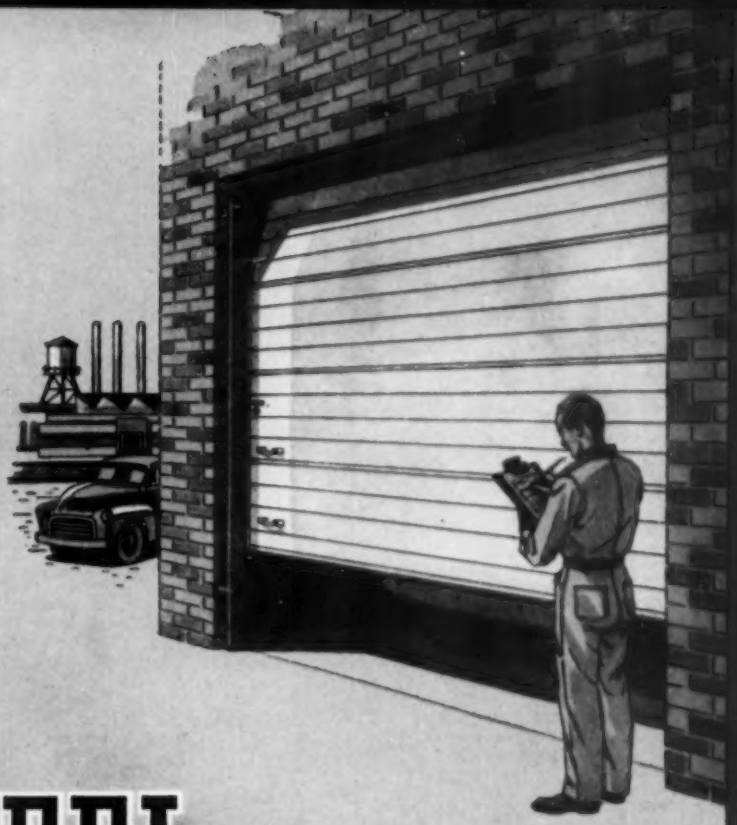
The main three-story building will provide more than 500,000 sq ft of office space and it will be supplemented by a one-story cafeteria to accommodate 800 persons (*model photo above*) and by a four-story administrative annex (*model photo below*) for executive offices and special departments.

Careful analysis of the flow of work between sections of the company was a part of the planning, which stressed flexibility within the structures. The horizontal scheme also facilitates future expansion. There are almost no permanent partitions, offices being separated generally by movable colored screens, readily changed and suggesting informality. The buildings will be air conditioned, summer and winter, and other modern equipment will include an electrical conveyor system for files and papers, escalators for passenger traffic, some elevators (principally for freight).

The exterior walls will be of heat-absorbent glass and porcelain-enameled steel. Interior gardens will echo landscaping of the rolling farmland acres.



THE
FIRST
ALL-STEEL
DOOR
WITH THE
FAMOUS
Crawford
MARVEL-LIFT
MECHANISM



THE NEW
ALL-STEEL
MARVEL-LIFT DOOR
BY
Crawford . . .

This door provides a combination not hitherto available—a modern steel door with the installation and operating advantages of the famous Crawford Marvel-Lift Mechanism.

It also provides all-steel construction at prices only slightly higher than wood construction. All-steel construction also has definite advantages in alleys and remote areas where fire and burglar protection are factors.

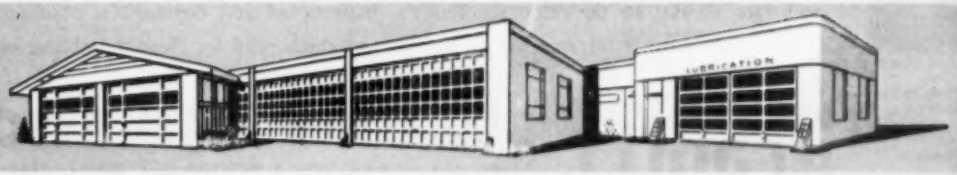
The All-Steel Door is a series of box sections built up from pans of rolled steel welded to box members at the top, bottom and sides and within the span. Outside is flush with horizontal lines giving clean, smart, modern appearance. It is protected on both sides by zinc chromate primer over cleaned metal. Finish paint coat can be applied when convenient, after installation.

Smooth, easy operation is assured by the Crawford Marvel-Lift Mechanism. Dual chain hoists mounted on a *single, full-width shaft* guarantee equal lift on BOTH sides of the door and no jamming or binding. Operation is faster than steel curtain doors.

Hardware is heavy duty throughout and is stoutly fastened. Installation is neat, compact, simple. Service and parts are always available locally.

All-Steel Doors are available in any width up to 14′0″. Heights range from 7′0″ to 14′0″ in 6″ steps. For more information call your local Crawford Door Sales Company, listed in the Yellow Pages under DOORS.

Crawford MARVEL-LIFT Doors



RESIDENTIAL • INDUSTRIAL COMMERCIAL

Crawford Door Company, 145-20263 Hoover Road, Detroit 5, Michigan

Fabricating plants in 10 centers. Service warehouses in 85 major cities. Sales and service companies everywhere.

ROLL CALL OF Crawford SPECIAL FEATURES

MARVEL-LIFT MECHANISM —standard equipment at no extra cost.

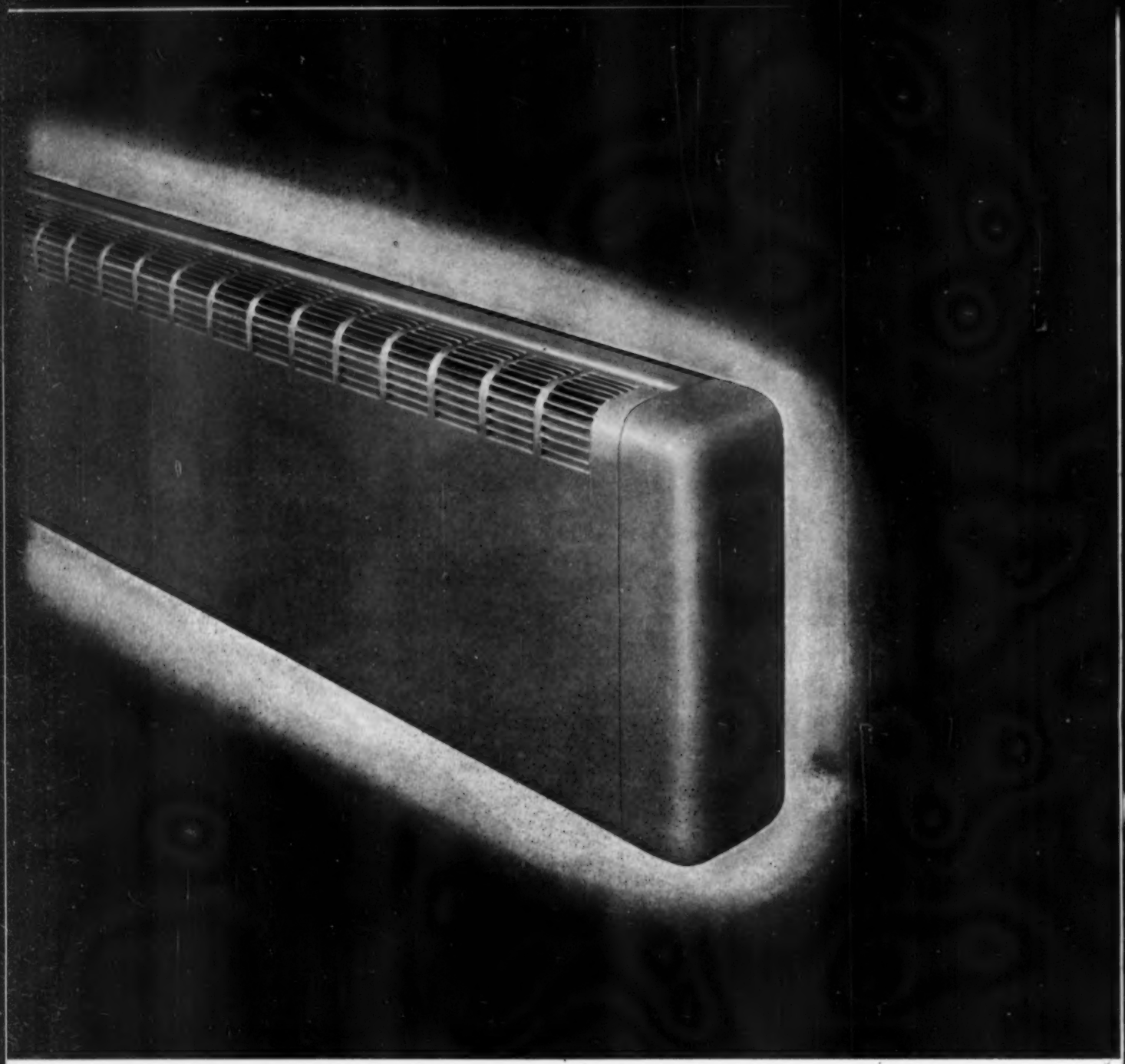
DUAL CHAIN HOISTS —are standard equipment; assure quick, easy, one-man operation of any size door. High excess strength.

BALL-BEARING HARDENED STEEL ROLLERS —the finest in the door industry.

BOX-TYPE PANEL CONSTRUCTION with Drip Lap at each section to shut out wind, rain, dust. Heavy rubber weatherseal top and bottom of door.

Crawford Doors SALES SERVICE

24-HOUR SERVICE Most anywhere in the U.S.A. and Canada.



DESIGNED FOR MODERN HEATING

Sill-line will heat the New Pavilion, Jefferson Hospital, Philadelphia, Pa.

Vincent G. Kling, Architect
A. E. D'Ambly, Engineer
W. M. Anderson Co., Htg. Contractor

Nesbitt Sill-line offers you all the benefits of high-capacity wall-fin radiation in the first enclosure expressly styled to harmonize with contemporary building design. Here's quick, uniform, under-the-window perimeter heating that provides economy of operation, ease of installation, and wide flexibility; *plus* an entirely new concept of enclosure styling so desirable for today's institutional and commercial buildings. If you desire further information on this new product, send for Nesbitt Publication 271.

NESBITT SILL-LINE RADIATION

Made and sold by John J. Nesbitt, Inc., Philadelphia 36, Pa.

master planning or public buildings management?

keenly aware

Dear Editor: As a member of a firm which has done considerable work through the good offices of the Public Buildings Service, I wish to comment on Fritz Gutheim's comments on the present state of PBS (*June 1954 P/A*).

Those of us who practice in Washington are keenly aware of the workings of Government agencies which do architectural work, either on their own or through private architects.

They all work very differently and undoubtedly must do so because their problems are very different. Their view of architecture and their dealings with architects must vary. Some do all of their own architectural work; others do it all through private architects, perhaps with good and sufficient reason.

It is probable that agencies who do their own architectural work feel that they can do it themselves either better or cheaper than through private practitioners, and yet this remains to be proved. The important question is which method produces the better architecture?

From a purely human (and perhaps selfish standpoint) private architects would like to see all buildings designed by private architects. However, there may be a considerable number of projects which, because of their size or nature, can best be designed by the agency which must maintain and operate them.

It seems obvious that some agency must always be available to promote and to implement all public construction projects, even those designed by private architects. It also seems quite possible and desirable for this agency to administer the design, construction, and maintenance of government buildings of all kinds. With an organization of this type, it is only natural and perhaps desirable that the agency will also design some buildings itself. It is only when the agency does this on a large scale that the private architect begins to feel threatened by the shadow of government competition!

After working for many government agencies, it is my feeling that PBS has functioned unusually well and that it has dealt intelligently and fairly with private architects. For the general welfare it is to be hoped that PBS will continue to function as it has in the past.

WALDRON FAULKNER
Washington, D. C.

friend to profession

Dear Editor: I think the Fritz Gutheim article (WASHINGTON PERSPECTIVE, *June 1954 P/A*) on W. E. Reynolds an excellent one, and also go along with him in his admiration for the good qualities of Commissioner Reynolds. He has done an excellent job and has been a friend to the architectural profession.

RALPH WALKER
New York, N.Y.

pendulum swing

Dear Editor: Gutheim's comments show the conflict between the tendency to centralize controls and the swing of the pendulum in the other direction to give greater and greater autonomy in the development of their own buildings to the various departments of the government, including the Post Office. On one point I disagree with Gutheim, and that is where he points out that Peter Strobel, the management engineer who succeeds Commissioner Reynolds, "has little to inherit but the public building management duties of a once high office." The managerial point of view is all-important. We need a larger concept of the meaning of enlightened management. The centralization of management of public buildings as well as of all types of real estate is one of the needs of the day.

Especially in his concluding paragraphs, Gutheim reveals the well-known need for the right type of leadership. In this case it amounts to the type of leadership that can explain the type of buildings needed so as to get the appropriations. There has been altogether to little emphasis upon exploratory work and preliminary planning. Too frequently no funds are available to pay for the type of exploratory work needed. When the pinch of need gets tight enough, a construction appropriation is made and then first emphasis is put on getting working plans made so construction can be commenced.

As designers, we architects ought to be able to work more closely with those responsible for the managerial servicing of buildings in the largest sense of the word. If architects were free to spend the requisite proportion of their time on this important form of advance planning, not only might the form and internal arrangement of buildings be improved, but the exterior grouping and locations of buildings as well. ARTHUR C. HOLDEN
New York, N.Y.

empowered and aggressive

Dear Editor: This country needs a PBA, but of a new type, one that does not await what comes to it by default after the more aggresive agencies have gone off each on their own. Some, it is true, have done fine jobs occasionally, but I can't get over the bad ones. Take one tiny, typical example, but of immense importance to one small community—a nasty, shoddy new little post office.

PBA should first be a master plan agency empowered and aggresive enough to anticipate and put together various public building programs and get up development plans for them, grouping, relating, and staging them in a physical and temporal way within cities, areas, and communities. This requires more than waiting for jobs. It means creating them. In some cases, PBA should carry out the resultant jobs, in other cases not—all depending on the extent to which their clients, who are consumer agencies of the government, are properly equipped to carry out the design and construction functions. These would not start, however, until the co-ordinated development or guide plans have been finalized by PBA, working in consultation with the consumer agencies which are their clients.

If PBA has failed—I don't know that it did (Reynolds was a great man)—it

(Continued on page 16)

p/a views

(Continued from page 15)

is perhaps because of not having emerged creatively and imaginatively into the field of master plan of development as an *instigator*, but having remained relegated to a diminishing *servitude* on programs instigated by others.

JULIAN WHITTLESEY
New York, N.Y.

original architects

Dear Editor: Sibyl Moholy-Nagy will not, I hope, mind a correction about Chandigarh in her review of Corbu's latest *(March 1954 P/A, page 176)*. In fact, as she says, "*If* one is to believe . . ." which one must not, for the site plan of Chandigarh is Albert Mayer's and Julian Whittlesey's, and the basic architecture is Matthew Nowicki's. Corbu is just a Johnny-come-lately in India, although, as usual, he claims all the credit.

HENRY S. CHURCHILL
New York and Philadelphia

Mrs. Moholy-Nagy did not repeat in P/A her comment to the same effect, included in her review of the Le Corbusier book in The Saturday Review *for February 20, assuming that a professional audience would be familiar with the design history of Chandigarh.*

DO YOU WANT *Porcelain Enamel* CURTAIN WALLS SPANDREL PANELS SASH PANELS?

Belli & Belli, Architect

Erie MAKES THEM ALL!

The burden of designing for porcelain enamel walls is no longer yours! ERIE has developed a range of panel designs adapted to curtain wall, window wall and spandrel treatments using any of a variety of structural supports. You can use filled panels, laminated or insulated panels— as designed or modified to your requirements.

DESIGNED TO FIT YOUR WALL SYSTEM

The range of ERIE porcelain enameled panel designs offers plenty of versatility for direct application to most popular structural systems without modification.

Write for new Architect's Sketch book giving complete details on ERIE Porcelain Enamel panel systems.

THE *Erie* ENAMELING COMPANY
ERIE, PENNSYLVANIA

the river of effort

Dear Editor: Felix Candela's chief thesis in "Stereo-Structures" *(June 1954 P/A)* would appear to be an effort to throw off the empiricism of 19th and 20th Century building practices which have served to deter or even strangle a search for proper building forms. The river of effort to achieve a firm statement of form has many tributaries, including emotional individualism, the right of organic unity, sculptural and plastic illusions, process engineering and socio-technic-industrial expression, structural clarity, and the externalization of form by the exploitation of physical properties of materials.

Candela's article, "Stereo-Structures," would fall near the mouth of the last-noted streamlet, rather than at the mouth of the river. Most certainly his attack on the sterile structural handbook and its users is valid. As pertinent, however, are the archaic and empirical standards established by amortization tables, promotional procedures, zoning tests, and underwriter edicts.

Economically, I do not believe that Candela's paper properly recognizes fundamental differences representing form through structure as related to socio-economic fact in the United States and in Mexico. I am afraid that certain primary assumptions made by the author would require quite complete reorientation of attitudes in finance, distribution of goods, and even the work habits of our "mechanics." While fully concurring in the need, I find the assumption of immediate applicability highly improbable in this country. The charges of "paper" en-

(Continued on page 22)

Again the choice is

SEAPORCLAD

Manufacturers Trust Company
S.W. Corner 5th Ave. & 43rd Street
New York, New York

Architect: Skidmore, Owings & Merrill. General Contractor: George A. Fuller Co. Structural Engineers: Weiskopf and Pickworth. *© Ezra Stoller*

This new Fifth Avenue office of the Manufacturers Trust Company represents the first use of this new sandwich-thin panel in conjunction with an all-glass building. More will follow, and SEAPORCLAD will be used. For SEAPORCLAD Light Weight porcelain panels, with their *flat* laminated surface and 3/8" all-over depth now give the architect a wide choice of colors to complement his original designing. They are structurally resistant to thermal shock, colorful and easily installed. • Only SEAPORCLAD, with its *"lamination"* permits such an accomplishment. This *lamination* forms a true *flat* sandwich. Furthermore, the special process permits the use of *very large panels* and special formulations, and finishes can be presented in a *laminated* panel to bring out the true value of porcelain.

Weather, fire and corrosion-resistant, SEAPORCLAD facades supplant heavy masonry walls, save space and weight, with resultant reductions in structural steel and foundation requirements. SEAPORCLAD is fabricated for a variety of uses in conventional sizes and in any thickness or shape . . . and is available in fullest scope of texture and enduring colors.

For Some Job . . . Somewhere . . . You Can Use SEAPORCEL*

Let Seaporclad's successful applications be your guide to future planning . . . write for brochure # 47

SEE OUR CATALOG IN SWEET'S

Seaporcel

SEAPORCEL METALS, INC.
2800 Borden Avenue
Long Island City 1, New York

SEAPORCEL PACIFIC, INC.
1461 Canal Avenue
Long Beach 13, California

ARCHITECTURAL PORCELAIN — Member: Porcelain Enamel Institute A. F. OF L. METAL FABRICATING & ENAMELING PLANTS

*Reg. U.S. Pat. Off.

COMPLETE ENGINEERING & ERECTION DEPARTMENTS

VELVET BLACK HARVEST BROWN

use it everywhere! ZO

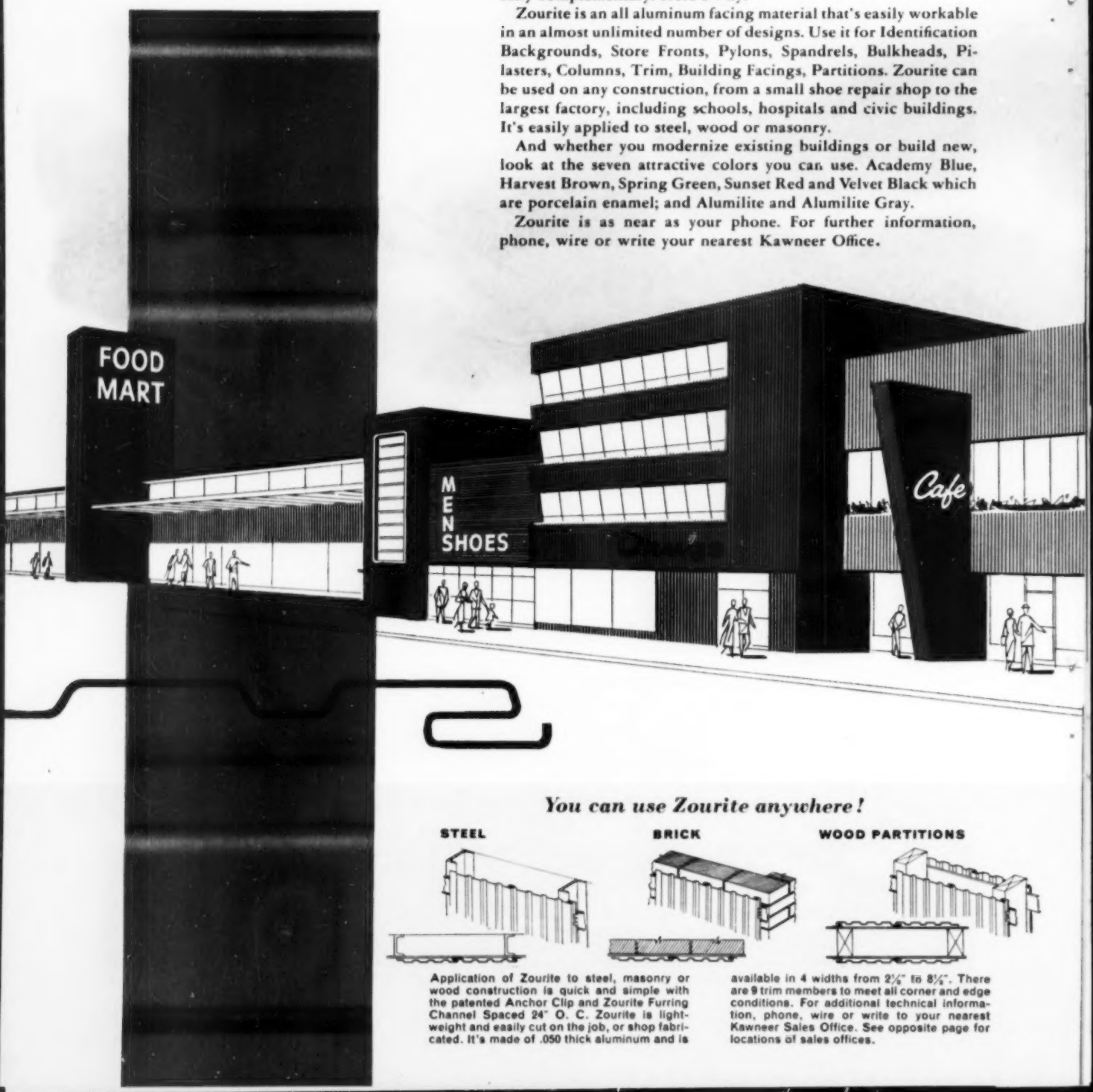
New—versatile, colorful, aluminum facing material

Zourite is so versatile you could modernize every type and kind of building in a block and make each building distinctive, yet beautifully complementary. Here's why:

Zourite is an all aluminum facing material that's easily workable in an almost unlimited number of designs. Use it for Identification Backgrounds, Store Fronts, Pylons, Spandrels, Bulkheads, Pilasters, Columns, Trim, Building Facings, Partitions. Zourite can be used on any construction, from a small shoe repair shop to the largest factory, including schools, hospitals and civic buildings. It's easily applied to steel, wood or masonry.

And whether you modernize existing buildings or build new, look at the seven attractive colors you can use. Academy Blue, Harvest Brown, Spring Green, Sunset Red and Velvet Black which are porcelain enamel; and Alumilite and Alumilite Gray.

Zourite is as near as your phone. For further information, phone, wire or write your nearest Kawneer Office.



You can use Zourite anywhere!

STEEL

BRICK

WOOD PARTITIONS

Application of Zourite to steel, masonry or wood construction is quick and simple with the patented Anchor Clip and Zourite Furring Channel Spaced 24" O. C. Zourite is lightweight and easily cut on the job, or shop fabricated. It's made of .050 thick aluminum and is available in 4 widths from 2⅛" to 8⅛". There are 9 trim members to meet all corner and edge conditions. For additional technical information, phone, wire or write to your nearest Kawneer Sales Office. See opposite page for locations of sales offices.

ALUMILITE SPRING GREEN ALUMILITE GRAY SUNSET RED ACADEMY BLUE

URITE

Store Fronts
Sun-Control Products
Doors and Entrances
Zourite Facing

Kawneer

NILES, MICHIGAN

Berkeley Lafayette Lexington Ky. Toronto Can.

SALES OFFICES:

ATLANTA, GEORGIA
714 Lee Street, S.W.

BERKELEY 10, CALIFORNIA
930 Dwight Way

BROOKLYN 8, NEW YORK
345 Van Eyck Street

CAMBRIDGE 42, MASS.
320 Binney Street

CINCINNATI, OHIO
806 Second Nat'l. Bank Bldg.
632 Main Street

CHICAGO 30, ILLINOIS
4532 N. Elston Ave.

CLEVELAND 14, OHIO
718-719 The Arcade

DALLAS 2, TEXAS
131-35 Payne Street

GRAND RAPIDS 4, MICH.
1250 Alpine Avenue, N.W.

KANSAS CITY, MO.
Room 617
20 W. 9th Street Building

LOS ANGELES 58, CALIF.
4801 Pacific Boulevard

NEW YORK 38, N. Y.
Room 2348
11 West 42nd Street

PHILADELPHIA, PA.
44 S. Lansdowne
P. O. Box 43

SEATTLE 1, WASH.
Terminal Sales Bldg.
1st & Virginia Sts.

ST. LOUIS, MO.
34 N. Brentwood Blvd.

KAWNEER CANADA LTD
Don Mills Rd.
Toronto 6, Ont., Canada

*FIRST LINE *Extended-Surface* HEAT EXCHANGERS

ASK THE AEROFIN MAN

Specify Aerofin and you specify high efficiency, long service life and low maintenance and service costs.

Take advantage of Aerofin's unequalled experience, production facilities, and materials-testing and design research—of Aerofin's complete engineering service at the plant and in the field.

Ask the Aerofin man.

* Aerofin makes extended heat surface exclusively — not as a by-product, not as a side-line. Sold only by manufacturers of fan-system apparatus. List on request.

AEROFIN CORPORATION

101 Greenway Avenue, Syracuse 1, N. Y.

NEW

1/2" *Tuf-flex*® Tempered Plate Glass Doors

How do they differ
from the widely used 3/4" Tuf-flex Doors?

1. **LIGHTER WEIGHT.** For example, for a 3' x 7' opening, the glass in this new 1/2" door weighs about 131 pounds, compared with 197 pounds for the 3/4" door commonly used in the past. That makes it:

   EASIER TO HANDLE—EASIER TO INSTALL—EASIER TO OPERATE

2. **LOWER COST.** Generally, list prices on the new 1/2" doors, complete with fittings, are comparably less than 3/4" doors of the same size. Many types of framed doors, which fail to carry out the transparency so desired in modern entrances today, are about the same price. This lower cost will enable many more building owners to add attractiveness and appeal of *Tuf-flex* Doors to their entrances.

How are they the same
as the 3/4" door?

1. **TOUGH.** Like the 3/4" door used so successfully in thousands of buildings, these tempered doors are 3 to 5 times as strong as regular plate glass of the same thickness. Extensive laboratory and application tests have proved the strength of the 1/2" *Tuf-flex* Door.

2. **APPEARANCE.** In style and design, they look just like the popular 3/4" door. Here's an opportunity to carry out the Visual Front idea in storefronts with transparent doors of lower cost. Tempered Plate Glass side lights are also available to match these beautiful doors.

New, modern fittings are available

They're clean-lined—in keeping with the sheer beauty of the *Tuf-flex* Door. The drawing at the right shows the simple lines of the alumilited fittings which are at the top and bottom of the door. Push bars are also attractively designed. See your L·O·F Glass Distributor or Dealer for details.

L·O·F GLASS

***TUF-FLEX* TEMPERED PLATE GLASS DOORS**

LIBBEY·OWENS·FORD GLASS COMPANY · 608 Madison Avenue, Toledo 3, Ohio

(Continued from page 14)

gineering and "cheap" engineering are wholly true—they are also interwoven in the fabric of our economy, our political structure, and our culture.

Decades of cumulative incompetence may not be wiped out through structural analysis, no matter how forcefully presented. Attitudes integrating factors of personal security, risk, social conformity, education, profit motive, and custom, as they all affect form, are directly relatable to the atrophy in structural ingenuity. A discussion largely circumscribed by physical properties of a particular material is indicative of the atrophy as I sense it.

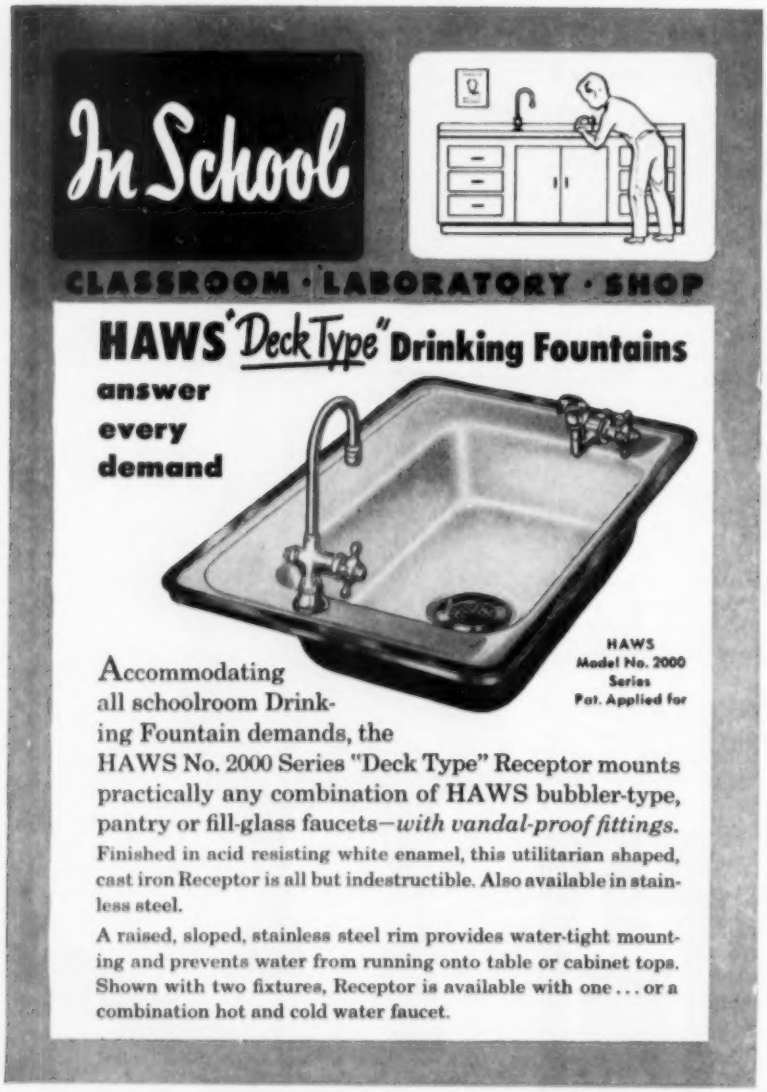
Multifunctional structural integrity (structural units that serve several purposes) is equally applicable to concrete, steel, or plywood. Perhaps erroneously I feel an implication by Candela of the doctrine of the superiority of a material. Actually, his presentation and arguments are equally sound for many materials and several assemblies.

Candela, perhaps with particular materials and forms in mind, states that in "organic structures of nature—where design progresses by natural selection . . . —the plane rarely occurs . . ." He apparently assumes a relationship between organic natural phenomena and inorganic-manmade structures. Perhaps a better analogy would be to compare our structures and the crystalline structures of nature. German physicist von Laue in 1912 verified through the use of X rays the orderly arrangement of the atoms in various crystal planes. Apparently, analogous reasoning based upon submicroscopic arrangements of nature would more nearly apply to man-made structures. Certainly a direct relationship of organic life and structures of inorganic materials should not be used to reinforce unrelated arguments. Apples do not usually produce orange juice and beehives lend little insight for the creation of form to house a human environment. I cannot believe there is a direct relationship between the pressed form of a single material in an automobile fender and a laboriously formed thin reinforced-concrete shell.

If many of our present structures are inefficient skeletons clothed in a ridiculous skin, we might wonder whether Candela's proposals do not interchange an inefficient skeleton for an anticlastic membrane of solid bone. In neither case have we found the multifunctioning materials allowing single process construction.

In the case of thin shells, we must yet solve the problems of thermal conductivity, water repellency, acoustical reverberations, luminosity, reflectivity, and simple intersurface connections (windows, for example). We may exchange the efficiency and controlled working conditions of the shop for appreciable material savings at the job site. But we are far from the co-ordinated, efficient, single-process building operation for which we search.

(Continued on page 24)


In School
CLASSROOM · LABORATORY · SHOP
HAWS "Deck Type" Drinking Fountains
answer every demand
HAWS
Model No. 2000
Series
Pat. Applied for
Accommodating all schoolroom Drinking Fountain demands, the HAWS No. 2000 Series "Deck Type" Receptor mounts practically any combination of HAWS bubbler-type, pantry or fill-glass faucets—with vandal-proof fittings.
Finished in acid resisting white enamel, this utilitarian shaped, cast iron Receptor is all but indestructible. Also available in stainless steel.
A raised, sloped, stainless steel rim provides water-tight mounting and prevents water from running onto table or cabinet tops. Shown with two fixtures, Receptor is available with one . . . or a combination hot and cold water faucet.

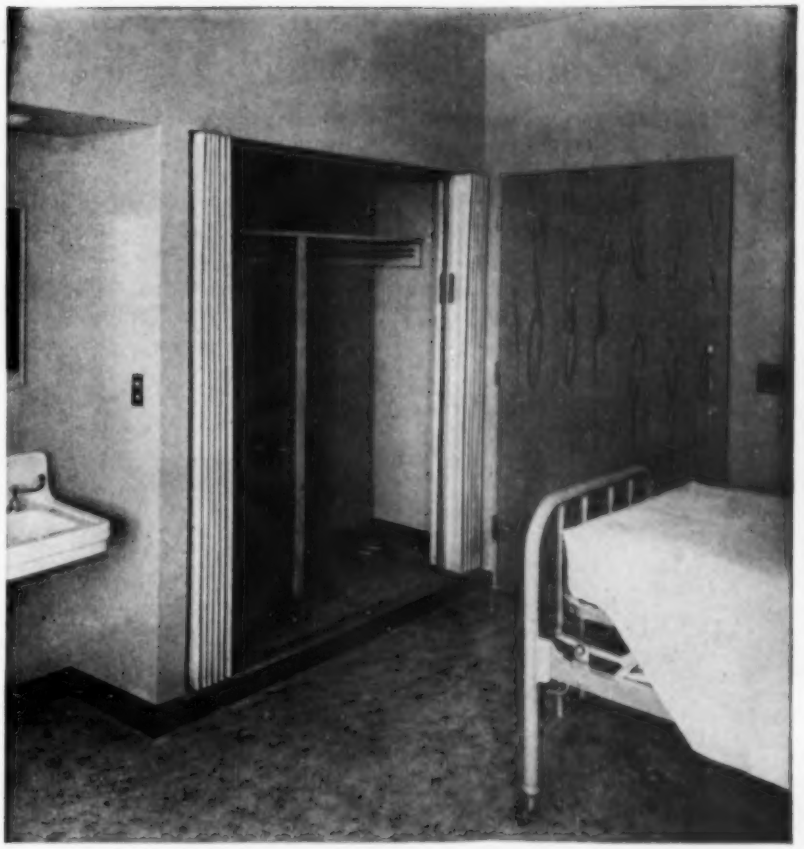
Write today for completely illustrated brochure.

HAWS DRINKING FAUCET CO.
1443 FOURTH STREET (Since 1909) BERKELEY 10, CALIFORNIA

Additional Hospital Space At No Additional Cost...

when you specify "Modernfold" doors, according to Architect Gerald G. Scott, Portland, Oregon. Writes Mr. Scott: "'Modernfold' doors were specified as an alternate to the Specifications for the Central Oregon District Hospital, but when the bids were opened, it became apparent that these doors could be had for no additional cost over wood doors. Their use was more than justified by an overwhelming list of advantages, including economy, but particularly by their space-saving feature. The Contractor was especially pleased because they relieved him of the responsibility of hardware, painting, and installation; resulting in less time on his part spent during the finishing stage of the job."

Pictured is one of the rooms from Central Oregon District Hospital, Redmond, Oregon. Scott & Payne, Portland, Architects.



Your ideas come to life... for life with "MODERNFOLD" doors

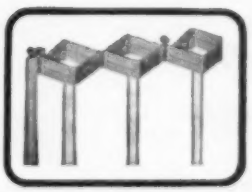
For every room division or door closure problem, there's a simple, economical, space-saving solution. That's "Modernfold," the original folding door.

Specifying "Modernfold" doors keeps clients happy. For these steel-framed, vinyl-covered doors can't be equaled *anywhere* for quality of design . . . for quality and strength of materials.

And because this line is *complete,* you're sure to save time and get exactly what you want when you specify better looking, easier operating, longer lasting "Modernfold" doors.

NEW CASTLE PRODUCTS, INC.
New Castle, Indiana; Montreal 6, Canada

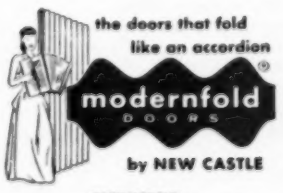
Better Looking
Fabric covering conceals all operating mechanism. No cornice needed. Adjustable trolleys keep doors hanging flush to jamb.



Longer Lasting
Balanced hinge construction both top and bottom. Trolleys attached at hinge intersections. No sidewise twist or pull possible.

Better Background
Over 100,000 "Modernfold" doors now in operation—a backlog of space engineering experience that's your guarantee of satisfaction.

YOU CAN'T GET MORE IN A FOLDING DOOR



COPYRIGHTED
NEW CASTLE PRODUCTS, INC. 1954

New Castle Products, Inc.
P.O. Box 893
New Castle, Indiana
Please send full details on "Modernfold" doors.

Name.....

Address.....

City.....*County*.....*State*.....

p/a views

(Continued from page 22)

Physically, and empirically, we are quite sure that two-way movement of mass can be accomplished with minimum energy over a level plane. Certainly a relationship exists between floor and ceiling and human occupants. For pure necessity and convenience, we must generally establish the reasonable ceiling height requirements of man. Unfortunately for Candela's arguments, these heights are usually the same at the center and at the perimeter. When utilitarian requirements outweigh the effect on the spirit, the loss of structural cubage and the increase to heating and cooling plants becomes determinant.

High real-estate values and unreasonable densities necessitate a predominance of multistory structures in most urban areas of my experience. In the outskirts, undersized but economically defensible subdivisions of land are conventionally rectilinear in nature. Esthetically, we can ponder the rightness of endless voluptuous curves and unrestricted, though structurally sound, geometric form. Such a polyglot family of shapes and forms could conceivably dissolve what little unity yet remains of our measled suburban acres.

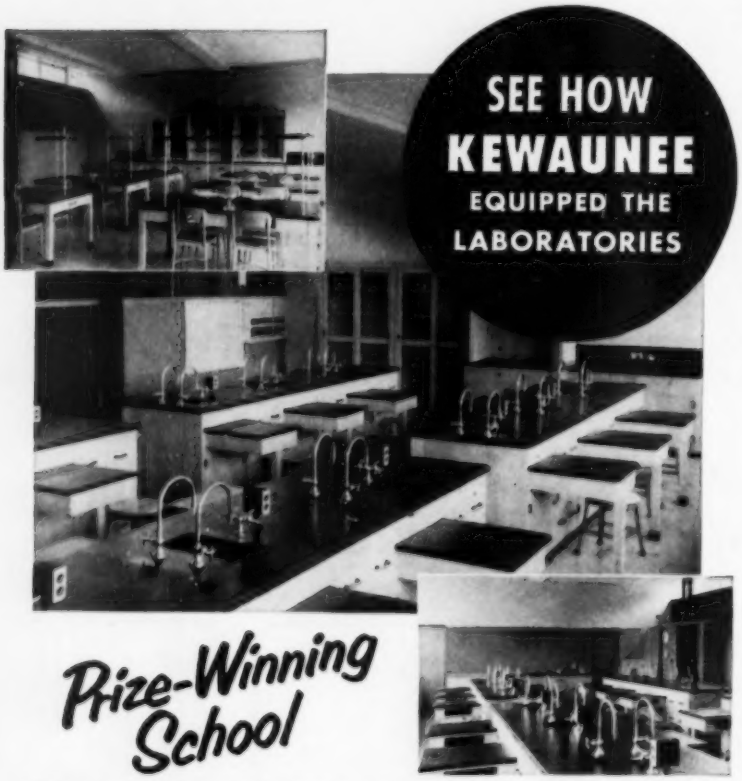
Another disadvantage apparent to everyone reading Candela's paper is the lack of a simple method of measure related to curvilinear and compounded forms. Planes of reference such as shipboard frame lines, water-lines, and buttocks lines appear impractical for usual job mechanics. Certainly we must assume the artisanship of a Naguchi and the template work of a master shipwright to expect reasonable connections between anticlastic shells and such prosaic necessities as a curtain wall. A limited use of such hand and piece work in some structures is laudatory, but to propose its wide acceptance appears to me unreasonable.

Candela has presented his position well. His arguments are basically valid and with many I agree, but I cannot give great credence to the proposals which apparently entail an almost complete reorganization of so many basic social institutions, practices, and procedures. Structural fetishes must not define our environment of the future. Structure must assume its proportioned place in the growing understanding of a family of technological considerations.

In my mind, structures far more prophetic than the thin-shell dome are the erector-set space frame of Michigan's Unistrut or Mies van der Rohe's Theater for Mannheim.

Through structures we must look to unified systems capable of housing an entire building at a single swoop. Structural elements must serve more than one stress and one purpose. They must be multifunctional. The interdependency of parts must be developed—but we cannot exchange a bone skeleton for a bone cranium (and here too lies a story)!

CHARLES R. COLBERT
Architect and Planner
New Orleans, La.



Prize-Winning School

GLENBROOK HIGH, NORTHBROOK, ILL., ARCHITECTS: PERKINS & WILL

Note how these Kewaunee Lincoln Desks provide maximum student capacity with the utmost in working convenience. Lincoln Desks are just one of the exclusive features that have made Kewaunee the nation-wide favorite for finer schools.

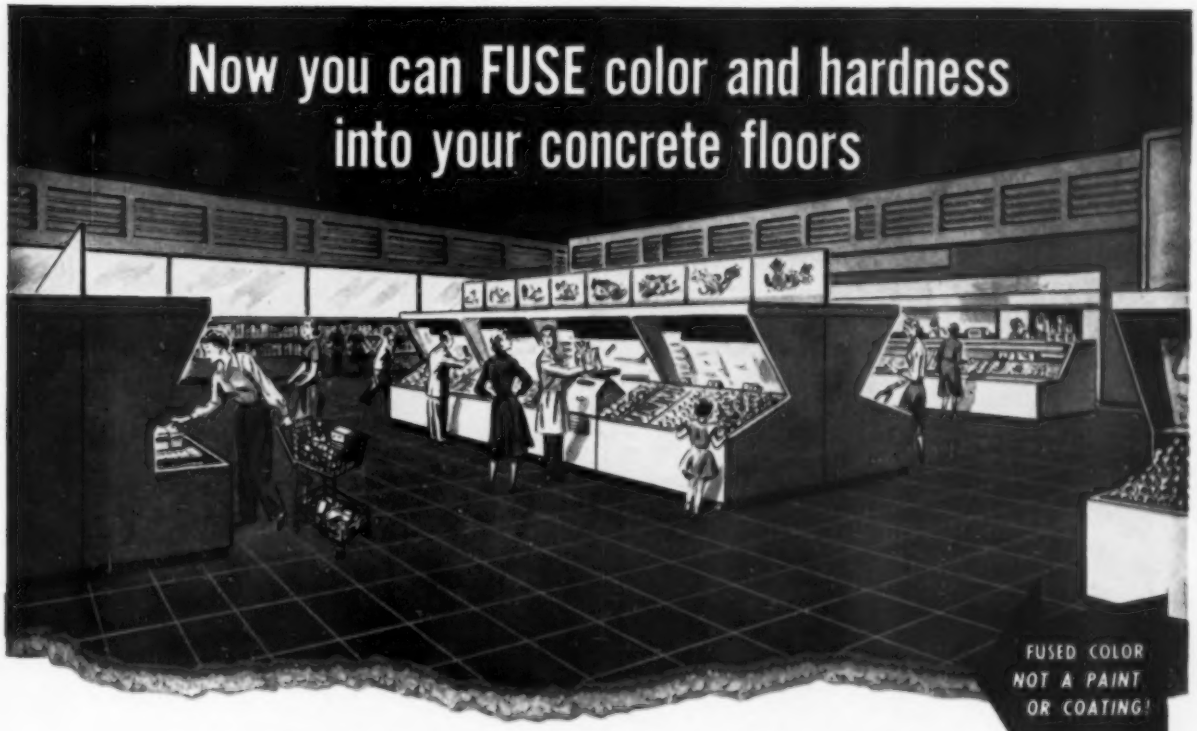
You pay no premium for all the extra values Kewaunee gives

1. Nearly 50 years of experience in serving the Educational Laboratory Field.
2. Incorporating the practical suggestions that have come from America's leading educators and technicians.
3. The finest quality throughout, both in materials and workmanship.
4. Famous KemROCK Resistant Tops for working surfaces.
5. A wide selection of equipment to meet every possible laboratory need.
6. The Free services of a Kewaunee Engineer — available without cost, to save you time, space and money.

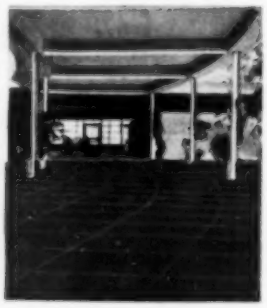
Whatever your School Laboratory needs may be — in wood or metal — write for the Kewaunee Catalog. See how Kewaunee Unit Assembly design can give you a "Prize-Winning Laboratory" at no extra cost.

Kewaunee Mfg. Co. 5089 S. Center St. • Adrian, Michigan
J. A. Campbell, President
Sales Representatives in Principal Cities

Now you can FUSE color and hardness into your concrete floors



only COLORUNDUM



meets your specifications when you need:

COLOR— Long-lasting and wear-resistant. A wide range of colors: TILE RED, DARK RED, MAROON, TERRA COTTA, ALASKAN BROWN, LINOLEUM BROWN, CHOCOLATE, DARK GREEN, EGYPTIAN GREEN, FRENCH GREY AND BLACK.

HARDNESS — Far more resistant to traffic than ordinary concrete floors. Does not contain silica, quartz or sand.

NONRUSTING COLORUNDUM contains no metal. Will not rust or stain.

ECONOMY — COLORUNDUM gives you beautiful, long-wearing floors at a fraction of the cost of tile floors. Easy and economical to clean and maintain.

COLORUNDUM is a balanced formulation of nonslip aggregate (next to the diamond in hardness), water-repellent compounds and durable colors. It is troweled into the concrete topping and becomes an integral part of the surface, producing beauty and durability.

Subsidiary of Sinclair *Chemical Corporation*

HORN

A. C. Horn Co., Inc.

Manufacturers of materials for building maintenance and construction since 1897

FREE INFORMATION!

A. C. Horn Co., Inc., Dept. H6-717
Long Island City 1, N. Y.

☐ Please send me complete data on COLORUNDUM

NAME _____ TITLE _____

FIRM NAME _____

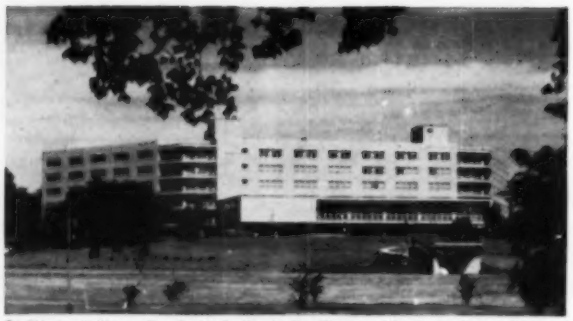
ADDRESS _____

CITY _____ STATE _____

Second floor cafeteria interior; attractive combination of Truscon Intermediate Projected Steel Windows with Truscon Picture Windows.

FIVE DIFFERENT TYPES OF TRUSCON STEEL

Interesting corner detail shows Truscon Steel Picture Windows combined with Truscon Intermediate Combination Steel Windows. Adjacent wall sections fitted with Truscon Steel Double-Hung Windows.



St. Vincent's Home, Omaha, Nebr. Steele, Sandham and Steele, architects. Parsons Construction Co., contractors.

Double-Hung Steel Window: wide range of styles, sizes. Stainless steel weatherstripped.

Intermediate Projected Window: wide variety of sizes, designs; projected and hinged ventilators.

Intermediate Combination Window: Incorporates side-hinged casement and projected ventilator in one design.

Main entrance elevation of St. Vincent's Home. Truscon Intermediate Projected Windows combine with Truscon Picture Windows in second floor facade; Truscon Intermediate Steel Casements on ground floor.

WINDOWS SERVE NEW ST. VINCENT'S HOME

They've used a *variety* of Truscon Steel Windows to capture sun and sky for new St. Vincent's Home in Omaha.

These striking applications demonstrate how effectively you can achieve beautiful and functional architectural effects with your choice of Truscon units. How you can design for the daylighting you want. How Truscon windows can be adapted to your original ideas. How you can provide effective weather protection in all climates.

No one makes a greater variety of metal windows than Truscon. It's a good idea to keep current details of the big Truscon line handy to your desk or board. Your personal copy of the complete Truscon Window Catalog will do it. And, it may help spark an interesting idea. Simply ask any Truscon office, or write "window headquarters" in Youngstown. Details are handy in Sweet's File, too.

Intermediate Casement: specially designed one-piece sections. Solid bronze hardware.

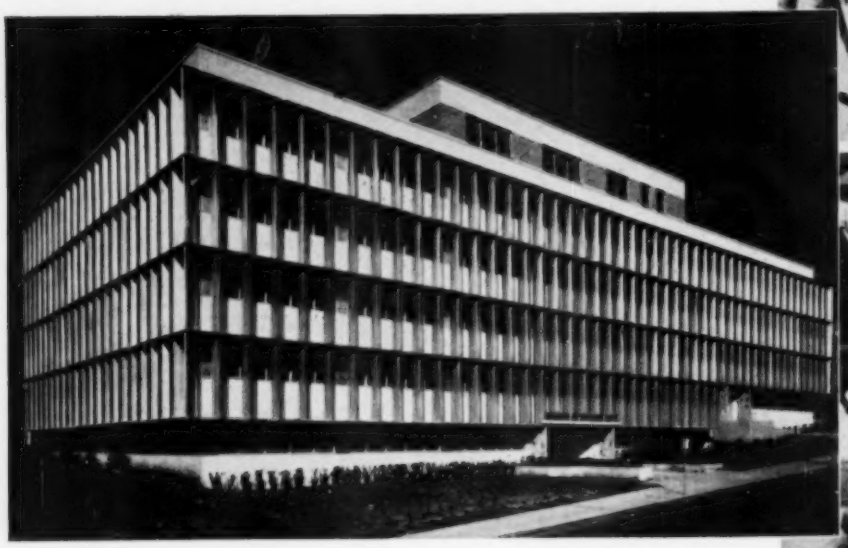
Picture Window: for use singly or in combination with other windows. 6' 0" maximum width.

TRUSCON MARK OF MERIT PRODUCTS

TRUSCON® —a name you can **build** on

TRUSCON STEEL DIVISION
REPUBLIC STEEL
1060 ALBERT STREET • YOUNGSTOWN 1, OHIO
Export Department: Chrysler Building, New York, 17 N. Y.

PAN AMERICAN MOTEL
Miami Beach, Fla.
Architect: Carlos B. Schoeppl
General Contractor: C. R. Clark Co.
Rotary Oildraulic Elevator installed by Miami Elevator Co., Inc.



UNITED BANKERS LIFE BUILDING
Dallas, Texas
Architect:
W. W. Ahlschlager
General Contractor:
T. C. Bateson Const. Co.
Rotary Oildraulic Elevators installed by Hunter-Hayes Elevator Co.

Rotary Oildraulic®

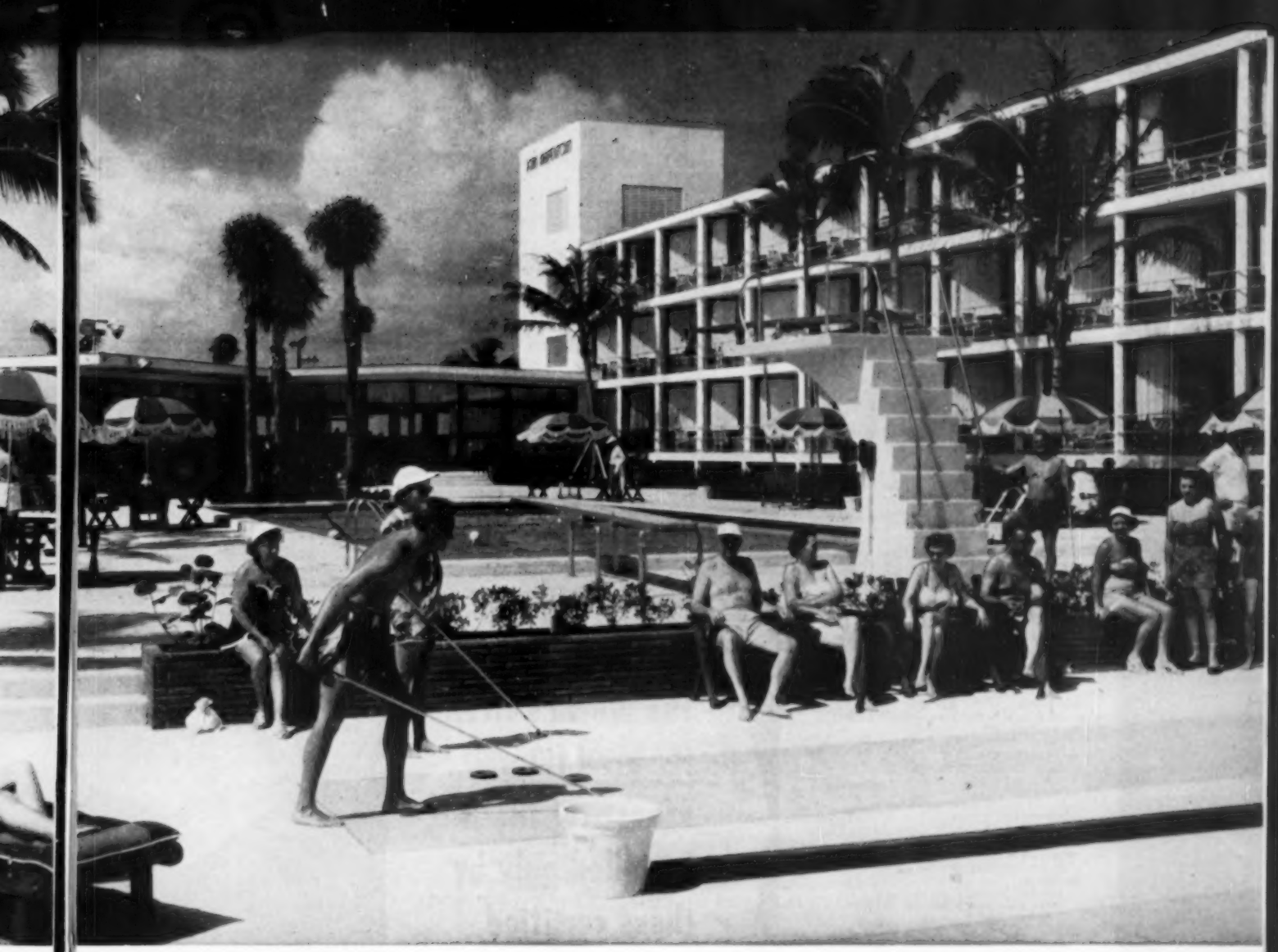
The modern

Operation without attendant

Rotary's fully automatic control systems eliminate the costly services of operators. Modern control and signal accessories enable you to match the architectural design.

Distinctive elevator entrances

Oildraulic Elevators can be equipped with any type of entrance you may specify. A wide range of patterns, metals, finishes and colors is available for frames, sills, doors, and trim.



elevator for modern buildings

The Rotary Oildraulic Elevator is moved and controlled by the smooth, dependable, economical power of oil under pressure.

No penthouse or heavy sidewalls—The elevator car and its load are supported by the hydraulic system—not by the building structure. This eliminates the costly, unsightly penthouse that interferes with modern architectural design. It also makes possible a substantial lightening of the hoistway structure.

Flexibility in power unit location—Rotary's compact power unit can be placed in any convenient location where a pipeline can be run from the unit to the hoistway. Thus it can be located in an area with other machinery for convenience in servicing and to save space. Or it can be placed in a small machine room built to accommodate the power unit being used on the installation.

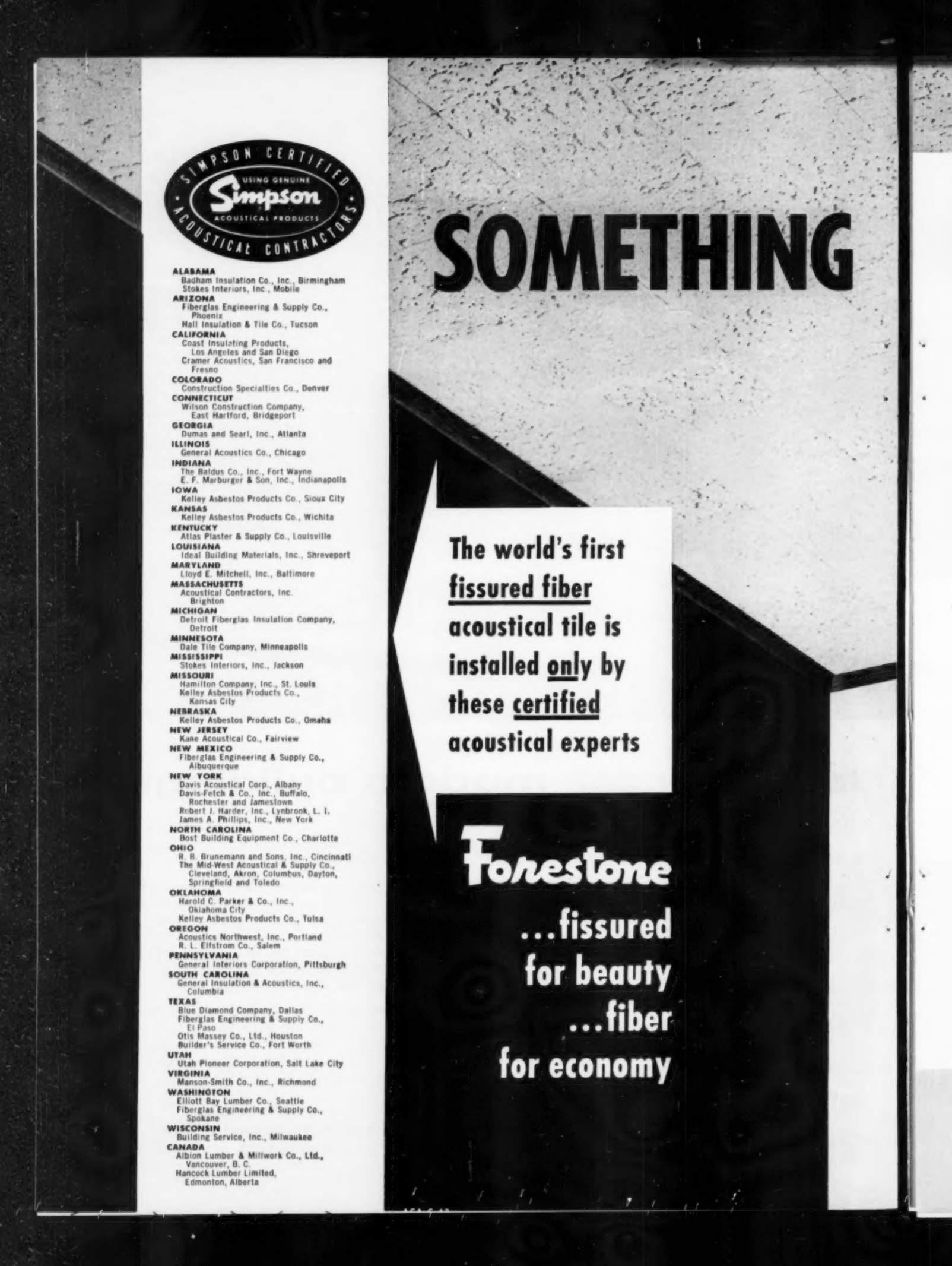
Smooth starts, accurate landings—The revolutionary Rota-Flow oil hydraulic power system gives velvet-smooth starts and cushioned stops. Oildraulic automatic floor leveling positions the car to each landing with exactness—1/4" accuracy guaranteed! The new patented Oildraulic Controller handles the functions of seven separate control valves . . . simplifies adjustments and maintenance.

Coast-to-coast service—Over 75,000 Oildraulic elevators and lifts have been installed and are serviced by Rotary's nation-wide distributor organization. Our Engineering Department will be glad to assist you on plans and specifications for passenger or freight elevators.

Write for new catalog RE-307 and complete architectural data

ROTARY LIFT CO., 1104 KENTUCKY, MEMPHIS 2, TENN.

SEE OUR CATALOG IN SWEET'S


SIMPSON CERTIFIED
USING GENUINE
Simpson
ACOUSTICAL PRODUCTS
ACOUSTICAL CONTRACTORS
ALABAMA
Badham Insulation Co., Inc., Birmingham
Stokes Interiors, Inc., Mobile
ARIZONA
Fiberglas Engineering & Supply Co., Phoenix
Hall Insulation & Tile Co., Tucson
CALIFORNIA
Coast Insulating Products, Los Angeles and San Diego
Cramer Acoustics, San Francisco and Fresno
COLORADO
Construction Specialties Co., Denver
CONNECTICUT
Wilson Construction Company, East Hartford, Bridgeport
GEORGIA
Dumas and Searl, Inc., Atlanta
ILLINOIS
General Acoustics Co., Chicago
INDIANA
The Baldus Co., Inc., Fort Wayne
E. F. Marburger & Son, Inc., Indianapolis
IOWA
Kelley Asbestos Products Co., Sioux City
KANSAS
Kelley Asbestos Products Co., Wichita
KENTUCKY
Atlas Plaster & Supply Co., Louisville
LOUISIANA
Ideal Building Materials, Inc., Shreveport
MARYLAND
Lloyd E. Mitchell, Inc., Baltimore
MASSACHUSETTS
Acoustical Contractors, Inc. Brighton
MICHIGAN
Detroit Fiberglas Insulation Company, Detroit
MINNESOTA
Dale Tile Company, Minneapolis
MISSISSIPPI
Stokes Interiors, Inc., Jackson
MISSOURI
Hamilton Company, Inc., St. Louis
Kelley Asbestos Products Co., Kansas City
NEBRASKA
Kelley Asbestos Products Co., Omaha
NEW JERSEY
Kane Acoustical Co., Fairview
NEW MEXICO
Fiberglas Engineering & Supply Co., Albuquerque
NEW YORK
Davis Acoustical Corp., Albany
Davis-Fetch & Co., Inc., Buffalo, Rochester and Jamestown
Robert J. Harder, Inc., Lynbrook, L. I.
James A. Phillips, Inc., New York
NORTH CAROLINA
Bost Building Equipment Co., Charlotte
OHIO
R. B. Brunemann and Sons, Inc., Cincinnati
The Mid-West Acoustical & Supply Co., Cleveland, Akron, Columbus, Dayton, Springfield and Toledo
OKLAHOMA
Harold C. Parker & Co., Inc., Oklahoma City
Kelley Asbestos Products Co., Tulsa
OREGON
Acoustics Northwest, Inc., Portland
R. L. Elfstrom Co., Salem
PENNSYLVANIA
General Interiors Corporation, Pittsburgh
SOUTH CAROLINA
General Insulation & Acoustics, Inc., Columbia
TEXAS
Blue Diamond Company, Dallas
Fiberglas Engineering & Supply Co., El Paso
Otis Massey Co., Ltd., Houston
Builder's Service Co., Fort Worth
UTAH
Utah Pioneer Corporation, Salt Lake City
VIRGINIA
Manson-Smith Co., Inc., Richmond
WASHINGTON
Elliott Bay Lumber Co., Seattle
Fiberglas Engineering & Supply Co., Spokane
WISCONSIN
Building Service, Inc., Milwaukee
CANADA
Albion Lumber & Millwork Co., Ltd., Vancouver, B. C.
Hancock Lumber Limited, Edmonton, Alberta
SOMETHING
The world's first fissured fiber acoustical tile is installed only by these certified acoustical experts
Forestone
...fissured for beauty
...fiber for economy

RADICALLY NEW

IN ACOUSTICAL MATERIALS

Forestone

FISSURED FIBER

ACOUSTICAL TILE

(PATENT PENDING)

Simpson's acoustical experts and laboratory scientists have created something entirely *new* . . . an acoustical tile made of economical, easy-to-apply woodfiber, *but with the beautiful surface characteristics of fissured mineral tile.*

Simpson's sensational new *Forestone* combines three basic features for the first time: the *beauty* of fissured tile, with its travertine-like appearance . . . the *economy* of fiber, with its low cost and ease of installation . . . and high *efficiency*, with sound absorption coefficients comparable to fissured mineral tile or perforated fiber tile of equal thickness.

AVAILABLE IN SQUARE EDGE

Forestone is not only the first fissured fiber tile, it is also the first practical *square edge* fiber tile. Although also made with bevels for those who prefer a tile pattern, it is in its square edge form that *Forestone* departs most radically from the mechanical appearance of the usual perforated fiber material, which can only be satisfactorily installed with bevels.

FLAME RESISTANT FINISH

Forestone either beveled or square edge, creates ceilings with rich texture, completely natural in appearance and with a soft, warm beauty. As in fissured mineral tile, a delightful variation enhances the appearance of the finished installation; no two tiles are exactly alike. The easily-cleaned white finish is flame resistant, meeting the "slow-burning" requirements of Federal Specification SS-A-118a.

Simpson research and production know-how have created the world's first fissured fiber tile. Ask the Simpson Certified Acoustical Contractor nearest you (list at left) to show you an installation, or photographs . . . and quote prices. *Forestone* brings a new concept to the acoustical treatment of ceilings; be among the first to capitalize on this modern miracle.

GUARANTEED

A written guarantee covering materials and workmanship is available.

EXCLUSIVE WITH SIMPSON LOGGING COMPANY
AT SHELTON, WASHINGTON

Address inquiries to Simpson Logging Company. 1010 White Building, Seattle 1, Washington

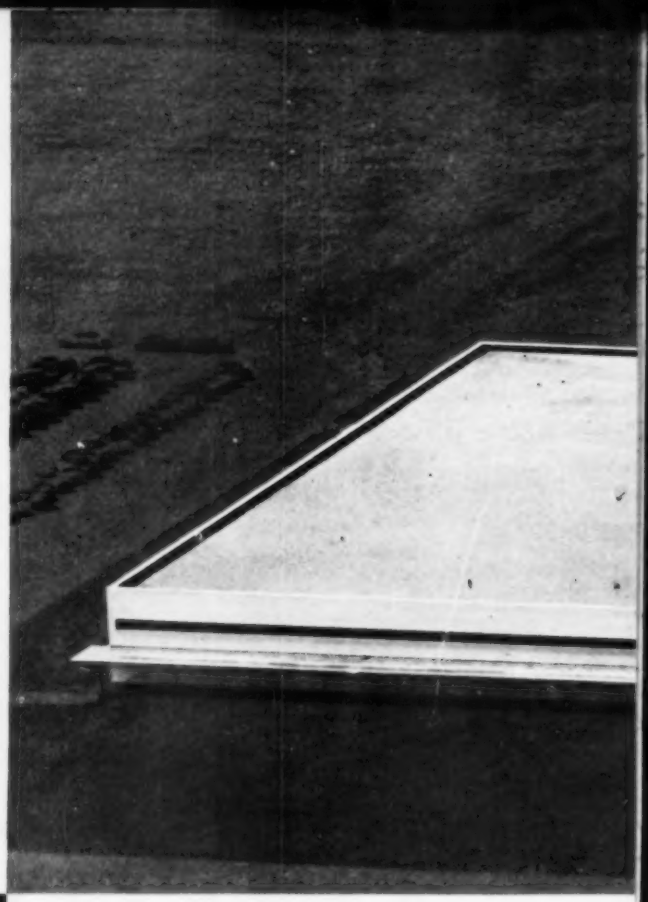
rely on Simpson

and Simpson Acoustical Contractors

PYROFILL*

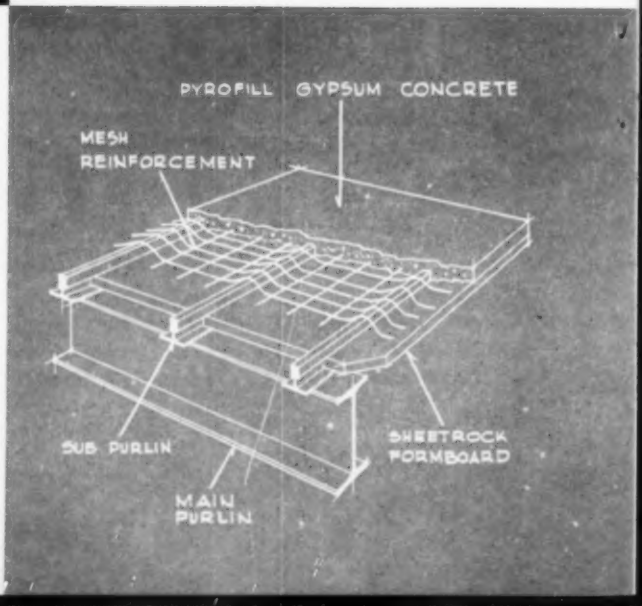
INCOMBUSTIBLE GYPSUM

roof decks fear no fire!



PYROFILL Roof Decks offer broad flexibility to the architect or structural designer. They adapt readily to flat, curved or pitched roofs, and are suitable for industrial, commercial or institutional buildings. Exacting insulation or acoustical requirements can be met by varying the type of formboards, SHEETROCK, USG* Insulation or USG* Acoustical formboards.*

*T.M. Reg. U.S. Pat. Off.



Armour & Co. Laboratories, Kankakee, Illinois Architects: *Holabird & Root & Burgee*
Contractor: *George A. Fuller Company* PYROFILL Contractor: *Anning-Johnson Company, Inc.*

PYROFILL Roof Decks are adaptable!

Other outstanding advantages:

INCOMBUSTIBLE . . . Pyrofill will not burn because it's formulated from fireproof gypsum—often produces insurance savings of 30% compared with combustible construction.

LOW COST . . . Pyrofill is poured over permanent formboards; is sold in place at amazingly low unit cost.

FAST INSTALLATION . . . a single crew often pours more than 20,000, sometimes as much as 30,000 sq. ft. a day—ready for the roof covering.

LIGHTWEIGHT . . . only 10 to 12 lbs. per sq. ft. in place, permitting important savings in structural steel.

STRONG, DURABLE . . . a factor of safety of 10 or more under normal roof loads. Pyrofill Decks erected over 30 years ago are still giving excellent service.

FOR FURTHER INFORMATION, contact the authorized Pyrofill contractor in your area, or write Dept. PA-3, 300 West Adams St., Chicago 6.

UNITED STATES GYPSUM

the greatest name in building

USG
UNITED STATES GYPSUM

How Honeywell Customized Temperature Control helps you

Give your clients better working weather

Why Honeywell Customized Temperature Control is becoming a "must" in all types of buildings

THE importance of good "working weather" *inside* a building is coming to be appreciated by a growing number of people concerned with promoting efficiency and satisfaction in all types of buildings.

A case in point, which tells how to insure proper indoor weather, is the Emmie U. Ellis Junior High School in Elgin, Illinois.

Today—as demonstrated by the Ellis school—the best way to provide proper temperature control is through the use of *Honeywell Customized Temperature Control.*

The key word here is "customized." It means that whatever your clients' control requirements, a Honeywell Customized Temperature Control installation *designed to fit the needs of the building and its occupants is your answer.* This applies not only to heating and cooling, ventilating and humidity control but to industrial control as well.

Only Honeywell can provide true "customized" control. Because only Honeywell manufactures all three types of controls—pneumatic, electric and electronic.

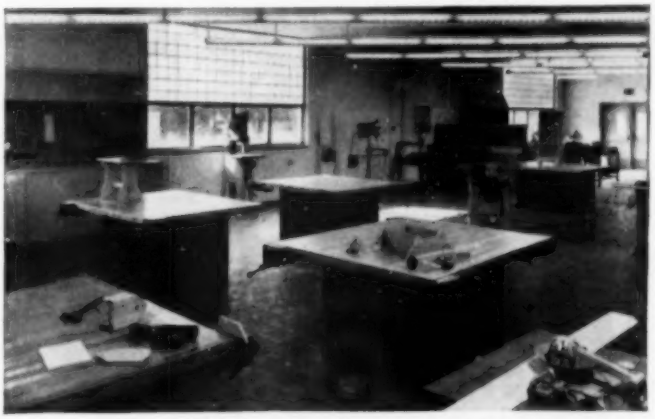
The story, in brief form, of the Honeywell Customized Temperature Control installation in the Ellis Junior High School is told here.

The *techniques* used, applied to your particular problems, can help you give your clients the indoor weather they've always wanted—in any type of building.

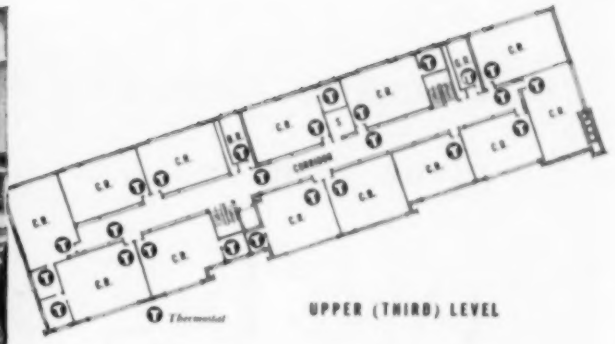
The Emmie U. Ellis Junior High School, Elgin, Illinois. Architects and engineers: Elmer Gylleck & Associates; Heating contractor: A. J. Ironside

Exposure and occupancy factors are the big control problems in the library. The room has large glass areas facing east which admit a good deal of solar heat on sunny mornings. One minute the library may contain five students, the next – fifty. These problems are easily solved, however, by several Honeywell thermostats placed strategically around the room.

The "use" comfort factor is the biggest problem in the home economics room. When the ranges go on they go on all at once – adding a great amount of extra heat to the room. Ordinarily this would mean real discomfort. But with Honeywell thermostats on the job controlling the heating and ventilating system, home economics students remain comfortable all the time.



Still another "use" problem must be met in the woodworking shop. Students here are physically quite active, need lower room temperatures for comfort. This condition is met handily by the Honeywell Customized Temperature Control installation. Individual thermostats here control space heaters – giving just the right indoor weather for work.



For comfortable, even temperature in new or existing buildings – of any size – specify Honeywell Customized Temperature Control

Whether it's a school, shopping center, factory, office, motel, hospital – or any size building – new or existing, Honeywell Customized Temperature Control can help meet your clients' heating, ventilating, air conditioning and industrial control problems.

Your clients will not only enjoy more comfort and efficiency, they'll save fuel, too.

For full facts on Honeywell Customized Temperature Control, call your local Honeywell office. Or mail the coupon today.

Orrin Thompson, superintendent of schools, Elgin, Ill., says:

"The Ellis school, like most of the schools in Elgin, is a better place to work and learn because it's a comfortable school. Honeywell Customized Temperature Control certainly deserves credit for helping to make it that way."

MINNEAPOLIS
Honeywell

First in Controls

112 OFFICES ACROSS THE NATION

Minneapolis-Honeywell Regulator Co.
Dept. PA-7-118 Minneapolis 8, Minnesota
Gentlemen:
I'm interested in learning more about Honeywell Customized Temperature Control.

Name .....

Firm Name .....

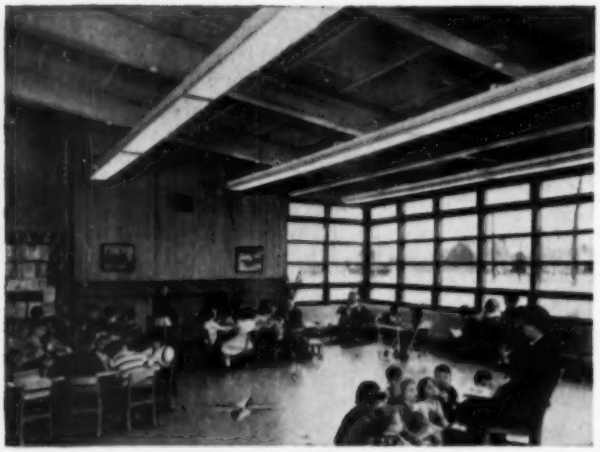
Address .....

City ..... *Zone* ..... *State* .....

Fiberglas Acoustical Form Board

gives your roofs

two big extras at one low price!



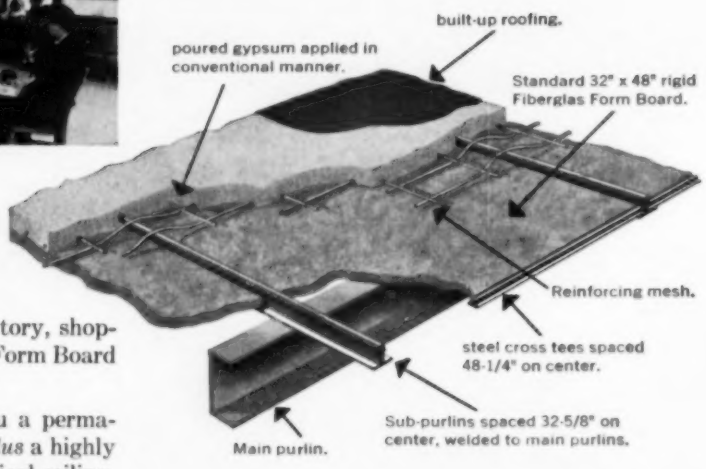
In a Class by itself: fire-safe, inorganic Fiberglas Acoustical Form Board with gypsum concrete keeps light structures snug, safe, quiet—eliminates cost of ordinary acoustical ceiling. Has N. R. C. of .75.

Extra #1.

A fire-safe acoustical ceiling

Extra #2.

A highly efficient insulation


built-up roofing.
poured gypsum applied in conventional manner.
Standard 32" x 48" rigid Fiberglas Form Board.
Reinforcing mesh.
steel cross tees spaced 48-1/4" on center.
Sub-purlins spaced 32-5/8" on center, welded to main purlins.
Main purlin.

Bucking a building budget for school, factory, shopping center? Consider Fiberglas* Acoustical Form Board as your solution.

Fiberglas Acoustical Form Board gives you a permanent, dimensionally stable form board . . . *plus* a highly efficient insulation . . . *plus* a fire-safe acoustical ceiling. Yet Fiberglas Acoustical Form Board costs no more than an acoustical ceiling alone!

It's easily installed with gypsum in flat, curved or pitched roof framing. Ceiling surfaces are Fiberglas and paintable.

Specify triple-duty Fiberglas Acoustical Form Board for schools, factories, shopping centers, all similar structures . . . get *two big extras* at one low price! For full technical data write Owens-Corning Fiberglas Corporation, Dept. 63-G, Toledo 1, Ohio.

OWENS-CORNING
FIBERGLAS

*Fiberglas is the trade-mark (Reg. U. S. Pat. Off.) of Owens-Corning Fiberglas Corporation.

SOUND CONTROL PRODUCTS • ROOFING INSULATIONS • ELECTRICAL INSULATIONS • DUCT INSULATIONS • LOW TEMPERATURE INSULATIONS

Mosaic Impervious Conductive Floor Tile, Pattern No. 1778-A3, in Operating Rooms, etc., Fitkin Memorial Hospital Addition, Neptune, N. J. New size 9" x 6" x ½" Mosaic Glazed Wall Tile, color No. 401 Hospital Gray Green. Ferrenz & Taylor, Architects. A. Tozzini Tile Works, Inc., Tile Contractor. Photo: Martin Helfer.

test-proved for safety, sanitation, permanence . . .

Mosaic IMPERVIOUS CONDUCTIVE Floor Tile!

The Mosaic Tile Company's Impervious Electrically-Conductive Ceramic Mosaic Floor Tile is unglazed, dust-pressed, square edge, porcelain-type, 1-9/16" x 1-9/16" x 1/4" tile. It was developed specifically to reduce the danger of anesthesia explosion resulting from spark discharge or electrical shock in surgical or obstetrical suites.

It meets the resistance limitations of June, 1952 N.F.P.A. No. 56 "Recommended Safe Practice for Hospital Operating Rooms." Efficiently dissipates static electricity and prevents accumulation of dangerous electrostatic charges by providing moderate electrical conductivity for all personnel and equipment in electrical contact with the floor. Every tile is conductive. Beautiful neutral warm brown color has a low light-reflection factor, restful to the eye. Every shipment is fully covered by Warranty of The Mosaic Tile Company.

SETTING Set with flush joints of gray non-conductive waterproofed portland cement, by modified-conventional method, in pulverized conductive cement mortar bed (requires 1-1/4" min. depth below finished floor). Or, for alteration without structural change, set in a thin-setting bed of conductive adhesive (increases existing floor line approx. 3/16").

MAINTENANCE Impervious to moisture, stain or insulating contamination. Easily maintained to highest standards of sanitation by scrubbing, rinsing to remove detergent film or talc and dry-mopping.

No loss of pre-tested conductive properties . . . ever. Never needs replacement because it has all the unequalled qualities of regular Ceramic Mosaic Tile.

In addition to the surgical and obstetrical suites of the new Addition, Fitkin Memorial Hospital has protected the anesthetizing areas in the original buildings with Mosaic Impervious Conductive Floor Tile, set with conductive adhesive over existing floors, without structural change.

The new large size 9" x 6" x 1/2" Mosaic Wall Tile is the ideal tile for permanently sanitary, easily maintained, attractive wainscots in large areas.

For Mosaic Impervious Conductive Floor Tile installation specifications and performance test reports, call your Mosaic Representative, or write Dept. 28-21, The Mosaic Tile Company, Zanesville, Ohio.

MOSAIC

1954 Our Sixtieth Year

THE MOSAIC TILE COMPANY

Member—Tile Council of America and The Producers' Council, Inc.

Offices, Showrooms and Warehouses across the Nation

Over 4000 Tile Contractors to serve you

OFFICES: Atlanta - Baltimore - Boston - Buffalo - Chicago - Dallas - Denver - Detroit - Fresno - Greensboro - Hartford - Hempstead, L. I., N. Y. - Hollywood - Little Rock - Miami - Milwaukee Minneapolis - New Orleans - New York - Philadelphia - Pittsburgh - Portland - Rosemead, Cal. - Salt Lake City - San Antonio - San Francisco - Seattle - St. Louis - Tampa - Washington, D.C. - Zanesville

CITY OF TOLEDO, OHIO
Division of Fire

Practically all Toledo fire stations are equipped with The "OVERHEAD DOOR." After many years of use, we have never been delayed responding to an alarm because of an inoperative door. The fact that your doors are weathertight, light, flexible and easy to operate makes them suitable for Fire Department operations.

A. F. PAPENHAGEN, *Chief*

Architect's choice and Chief's choice for

New Toledo Fire Headquarters...

THE "OVERHEAD DOOR" TRADE MARK

Bellman, Gillett & Richards, Architects

America's finest **Electrically Operated Doors** were selected for this dramatic "showroom" of modern firefighting

because:

ARCHITECTS and BUILDERS

The "OVERHEAD DOOR" dealer near you will gladly supply literature, specifications and estimates. Look in the yellow pages under "Doors" . . . or write:

- The smart horizontal lines of The "OVERHEAD DOOR" are perfectly adapted to functional architecture.
- Unimpeded view of firehouse interior fosters civic pride by letting public see the ultra-modern apparatus.
- Doors open simultaneously with one button, close automatically after trucks leave, to conserve heat.
- Always weathertight due to exclusive MIRACLE WEDGE* yet operate smoothly, promptly in all conditions.
- Finest quality materials, expert installation and service, assure trouble-free performance and long life.

*TRADE MARK

OVERHEAD DOOR CORPORATION
Dept. PA3 • Hartford City, Indiana

America's Great Name in QUALITY DOORS...

©1954 O.D.C.

THE COMPLETE LINE OF UPWARD-ACTING DOORS FOR RESIDENTIAL • COMMERCIAL • INDUSTRIAL USE

HARDWARE VARIATIONS UNLIMITED!

A NEW LOOK!

GREATER STRENGTH!

USE IT EVERYWHERE!

KAWNEER W-SERIES DOOR

"a thousand doors in one!"

Now! Your design problems are simplified, and client satisfaction assured when you specify the new Kawneer W-Series Door. To meet these needs you demanded a readily available door with all the qualities of a "custom-made" product . . . distinctive beauty, adaptable design and rigid strength that defies rugged use. Kawneer has vastly improved manufacturing techniques over ordinary methods of metal door production to bring you these highly desirable features. Kawneer has created the new materials and methods needed to do the job. What would be "custom" production elsewhere is now standard procedure at Kawneer in the production of the new W-Series Door. The quality of materials and workmanship is even superior to the usual Kawneer standards which have lead the field of architectural metal products. Demand the newest and best—the Kawneer W-Series Door! For complete information, write Kawneer, Niles, Mich.

"Great Strength, Outstanding appearance"

—THAT'S WHAT THIS ROOFING APPLICATOR SAYS ABOUT

Certain-teed Metro-Mix

REG. U.S. PAT. OFF.

Shipping, Stock and Related Activities
Prentice-Hall, Inc.
Englewood Cliffs, N.J.

Architects:
Kahn & Jacobs
New York, N.Y.

Contractor:
Jos. L. Muscarelle, Inc.
Hackensack, N.J.

Applicator:
Eastern Fireproofing Co., Inc.
Wakefield, Mass.

Metro-Mix is a poured-in-place gypsum roof deck that offers specific, and important, advantages wherever a light, strong, fireproof roof deck is desired.

Of this job for Prentice-Hall, Inc., which required 150,000 feet of Metro-Mix, R. J. Albert, Eastern Fireproofing Co., writes:

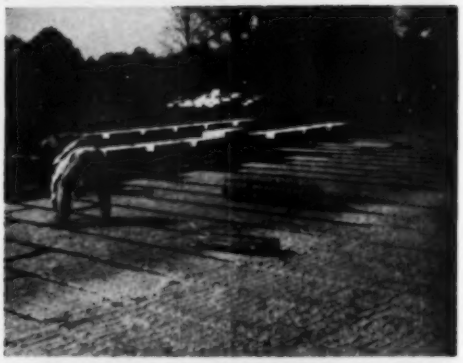
"The uniformity of your product, its yield and finishing qualities, assisted us in delivering a deck of great strength and outstanding appearance. It was particularly well suited to the high-speed precision mixing and pumping operation which we use.

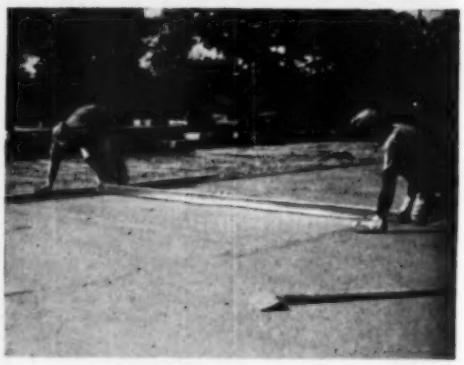
"... The job was carried out to the complete satisfaction of Jos. L. Muscarelle, Inc., Contractor, who has forwarded to us a letter of commendation."

That is a strong recommendation indeed. It is just one of many that Metro-Mix has now earned—from roofing applicators, contractors and architects. It is one well worth remembering whenever *your* plans call for roof decking. Write for complete information on Certain-teed's Metro-Mix now.

GYPSTEEL PLANK

Certain-teed also makes Gypsteel Plank, a pre-cast gypsum roof deck reinforced with steel. Gypsteel Plank is light, strong, tongued and grooved for quick, easy assembly. Plank size: 2" x 15" x 10'. Write for details.

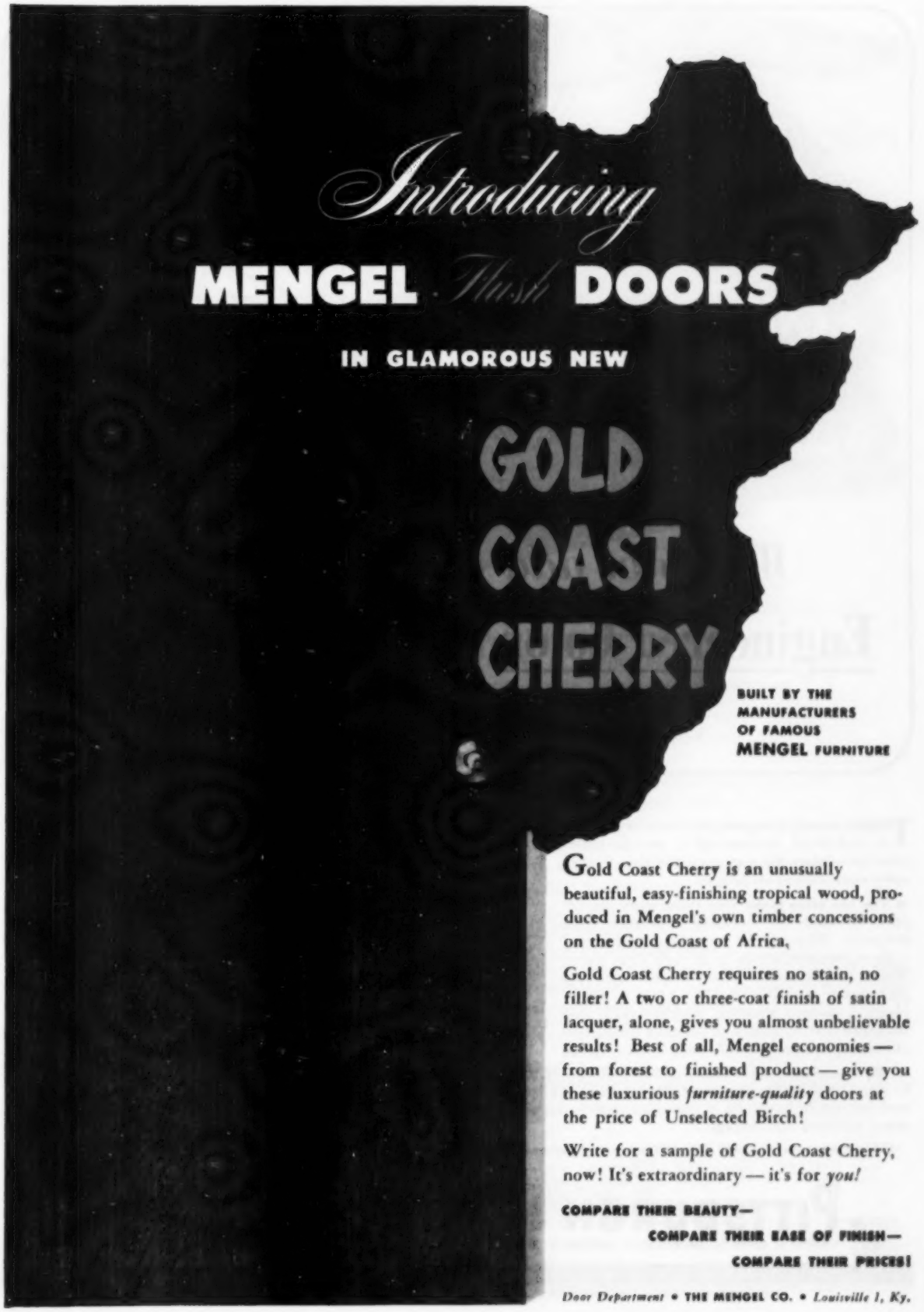




Certain-teed
REG. U.S. PAT. OFF.
50th YEAR
Quality made Certain... Satisfaction Guaranteed

CERTAIN-TEED PRODUCTS CORPORATION
ARDMORE, PENNSYLVANIA
EXPORT DEPARTMENT: 100 EAST 42ND ST., NEW YORK 17, N.Y.

ASPHALT ROOFING • SHINGLES • SIDINGS • ASBESTOS CEMENT ROOFING AND SIDING SHINGLES • GYPSUM PLASTER • LATH • WALLBOARD • SHEATHING • ROOF DECKS • FIBERGLAS BUILDING AND ROOF INSULATIONS



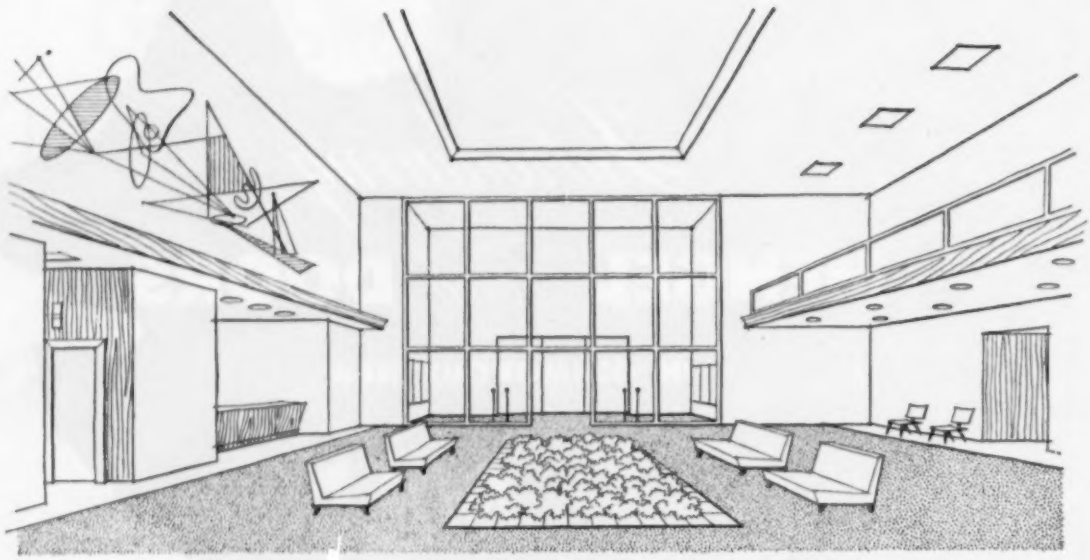
Gold Coast Cherry is an unusually beautiful, easy-finishing tropical wood, produced in Mengel's own timber concessions on the Gold Coast of Africa.

Gold Coast Cherry requires no stain, no filler! A two or three-coat finish of satin lacquer, alone, gives you almost unbelievable results! Best of all, Mengel economies — from forest to finished product — give you these luxurious *furniture-quality* doors at the price of Unselected Birch!

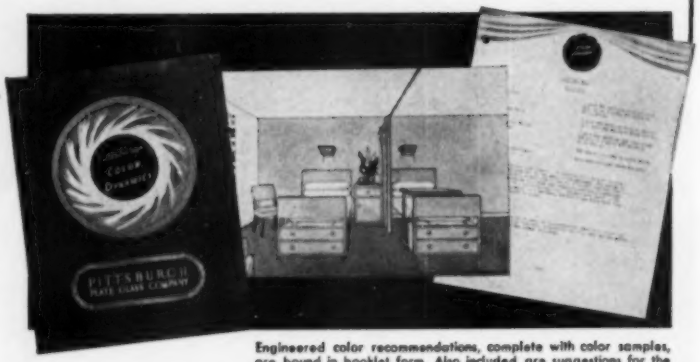
Write for a sample of Gold Coast Cherry, now! It's extraordinary — it's for *you!*

COMPARE THEIR BEAUTY—
COMPARE THEIR EASE OF FINISH—
COMPARE THEIR PRICES!

Door Department • **THE MENGEL CO.** • *Louisville 1, Ky.*



Why not add a comprehensive
Engineered Color Study to your plans?



Engineered color recommendations, complete with color samples, are bound in booklet form. Also included are suggestions for the correct types of coatings for every kind of material and construction.

TODAY, nearly everyone who owns or operates an industrial, commercial or service enterprise recognizes the importance of the effect of color environment on people.

● **You can often make** your plans more acceptable to clients by including a detailed color program. Why not let us submit *engineered* color recommendations to go with your plans? These recommendations are based upon the principles of COLOR DYNAMICS, Pittsburgh's modern painting system which has demonstrated its ability to improve productive efficiency, morale and well-being in many fields.

● **We'll be glad** to make such a detailed study without cost or obligation to you. Simply call your nearest Pittsburgh Plate Glass Company branch and arrange to have one of our color experts see you at your convenience. Or mail this coupon.

Additional information on COLOR DYNAMICS in Sweet's Architectural File, Section 14/PL

MAIL THIS COUPON TODAY

Pittsburgh Plate Glass Company
Paint Division, Dept. PA-74
Pittsburgh 22, Pa.

Gentlemen:

☐ Please have your representative provide us with further information about Pittsburgh's *Free* COLOR DYNAMICS engineering service for architects.

☐ Please send free copy of your booklet on COLOR DYNAMICS for ____industry; ____hospitals; ____schools; ____commercial buildings.

NAME _____

ADDRESS _____

CITY _____ COUNTY _____ STATE _____

PITTSBURGH PAINTS

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

Just STAINLESS STEEL SINKS and CABINET TOPS

Meet Highest Architectural Standards

St. Francis Hospital, Lynwood, Cal.

The Upjohn Company, Kalamazoo, Mich.

Hotel Dieu, Sisters' Hospital, New Orleans, La.

For many years, America's leading manufacturers of hospital, school and laboratory casework have turned to the Just Manufacturing Co. for the very finest in stainless steel sinks and cabinet tops because:—

JUST craftsmanship assures perfect fit for their cabinets.

JUST design gives unlimited freedom in planning to conform to modern architecture.

JUST precision construction reduces installation costs by eliminating "on-the-job" alterations.

And only in Just Line stainless steel products do you get ALL these features:—

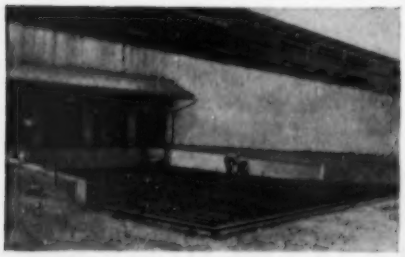
- Patented Anti-Splash Rims around the entire perimeter of sink bowls.
- Patented double pitched drainboards.
- Seamless welded one-piece construction for utmost sanitation.
- Maximum use of heavy gauge stainless steel for lifetime durability.

For further information, write today for illustrated literature and name of your nearest field representative.

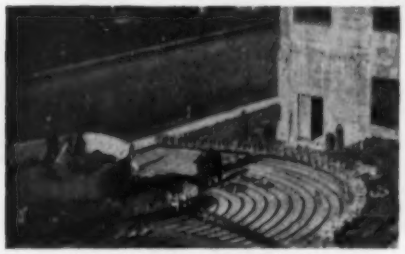
Just Manufacturing Co.
9233 KING AVENUE
FRANKLIN PARK, ILL.
IN THE GREATER CHICAGO INDUSTRIAL DISTRICT

THE GREATEST NAME IN *QUALITY* STAINLESS STEEL PRODUCTS

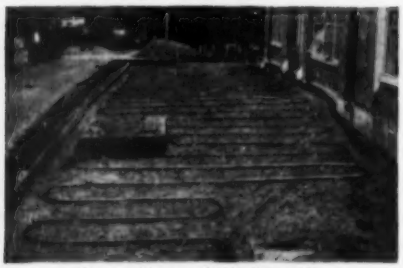
No more shipping ~~slowdowns~~ snow slowdowns!



Trucks and trailers will never get stuck in this dock approach.



All-weather access assured by snow melting at warehouse ramp.



Snow will never block the truck approach to this mill.

Snow Melting helps industry move what it makes!

Transportation slowdowns, caused by snow or ice at loading and receiving docks, in road or driveway approaches, on private tracks and spurs, are costly penalties to pay when modern snow melting systems are available.

The constant, uninterrupted flow of both raw materials and finished products *in* and *out* of plants, warehouses and other business buildings is as vital to the nation's commerce as production and manufacturing itself!

So, where hazardous weather may be expected even occasionally, steel pipe snow melting systems provide practical insurance . . . while in areas where snow and ice may be every-winter plagues, snow melting stops delay at the approaches dead-in-its-tracks!

You would expect, and rightly so, that steel pipe is the favored heat transmission medium for these industrial and commercial snow melting installations. For steel pipe has been the faithful stand-by of industry for more than 60 years . . . for plumbing, heating, fire sprinkler systems, power, steam and air transmission, and a host of mechanical uses. Once again industry turns to this economical and durable product for the panels, coils and runs of its snow melting installations.

Yes, for snow melting, *steel pipe is first choice,* the most widely used pipe in the world!

Steel Pipe is First Choice

Send for new, free 32 page color booklet "Steel Pipe Snow Melting and Ice Removal Systems".

COMMITTEE ON STEEL PIPE RESEARCH
AMERICAN IRON AND STEEL INSTITUTE
350 Fifth Avenue, New York 1, N.Y.

5 DIFFERENT ARCHITECTS CHOOSE

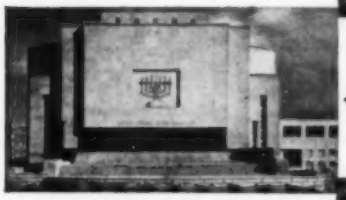
Lightweight ZONOLITE®

Aggregates for 5 New Churches!

Saint Louis Roman Catholic Church, Princeton, Illinois: Zonolite Concrete provides a warm, dry, comfortable floor according to Rev. Father Edward M. Farrell. Architect: A. F. Moratz, Bloomington, Ill.

Lincoln Park Community Church, Lincoln Park, Pa. . . . Zonolite lightweight Plaster Aggregate used throughout. Architect: George Savage, Philadelphia; General Contractor: Securda & Company, Lincoln Park, Pa.; Plastering Contractor: William Fitterling, Sinking Spring, Pa.

North Shore Baptist Church, Chicago, Illinois . . . Zonolite Acoustical Plastic Ceiling. Architect: Benj. Franklin Olson, Chicago; Plastering Contractor: Kjellberg Plastering Co., Chicago.



Adas Israel Synagogue, Washington, D.C. . . . Zonolite insulating Concrete used under radiant heating coils in the floors. Architect: Frank Grad & Son, Washington, D. C.

Grace Evangelical Lutheran Church, La Grange, Illinois: Zonolite insulating Concrete used in the basement, as fill between floors and for the roof deck. Architect and Engineer: A. Einar Olson, Chicago; General Contractors: Heidel & Beck, Inc., Chicago.

ZONOLITE COMPANY

135 S. LaSalle St. • Chicago 3, Illinois • Member of Vermiculite Institute

In church construction—where fire safety, sound absorption, warmth and dryness are important to the comfort of the congregation—the five architects whose work is shown here, turned to the outstanding benefits of Zonolite Vermiculite Aggregates or Zonolite Acoustical Plastic to achieve the best results in their building projects.

Here is how these products can make your next church job—*or any job*—outstanding.

Zonolite Concrete Aggregate:—Here Zonolite is used to insure warm, dry concrete floors, with or without radiant heating and for lightweight roof deck construction with insulation built right in. Poured over paper-backed wire mesh, high rib lath, or other suitable forms, it eliminates the need for additional roof insulation and is permanent as well as firesafe.

Zonolite Plaster Aggregate:—Accorded highest fire ratings in all types of construction, Zonolite is the perfect choice for interior finish. One-third the weight of sand plaster—speeds construction time.

Zonolite Acoustical Plastic:—The most efficient, low cost sound conditioning, trowels on just like plaster over any clean, firm, water-resistant surface.

Zonolite Company, Dept. PA-74
135 S. LaSalle St., Chicago 3, Ill.

Please send me your new booklet G-66 on Zonolite insulation, lightweight Aggregates and Acoustical Plastic.

Name.....Firm Name.....

Address.....

City.....Zone.....State.....

Architect ☐ Engineer ☐ Spec. Writer ☐ Contractor ☐

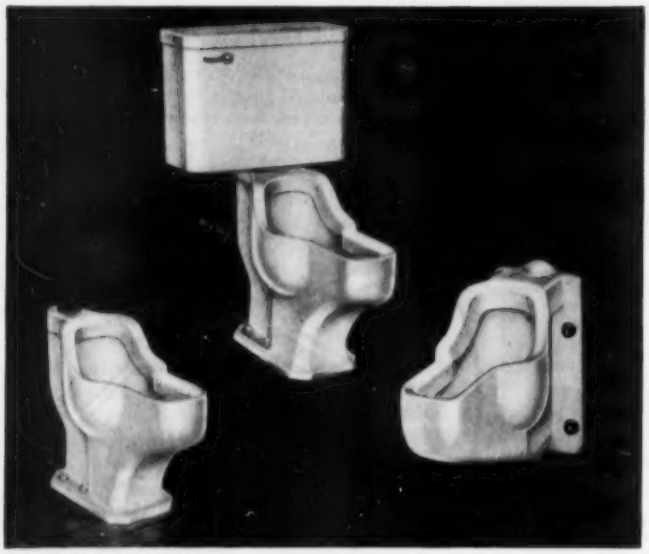
Other.....

PRODUCT NEWS from AMERICAN-Standard

A review of products in the news and important features worth remembering

AMERICAN-STANDARD HOSPITAL CATALOGUE H53

To help you select American-Standard hospital equipment quicker, easier, this compact yet complete catalogue gives information on all American-Standard plumbing fixtures together with a representative selection of heating equipment for hospital use. American-Standard Catalogue H53 has an attractive hard cover, is thumb-indexed, contains complete specifications, drawings, fittings, data. The eight sections, 118 pages, are systematically arranged so that all the information you need on any product is right at your fingertips—no time-wasting hunting. Compact, complete, easy to use! Available through American-Standard sales offices.



SANISTAND FIXTURE FOR WOMEN'S REST ROOMS

The Sanistand urinal for women offers women greater convenience and sanitation . . . keeps rest rooms cleaner and easier to maintain. Featuring an ample bowl, slanted rim and extended lip that discourage misuse, the 18-inch high urinal can be easily and comfortably straddled. The Sanistand is available in pedestal, wall-type and tank models . . . can be installed just like a water closet. All three models are constructed entirely of non-absorbent genuine vitreous china . . . are strong, smooth, easy to keep sparkling clean. All are suitable for modernization work and can usually replace existing water closets. Choose from a variety of colors or white.

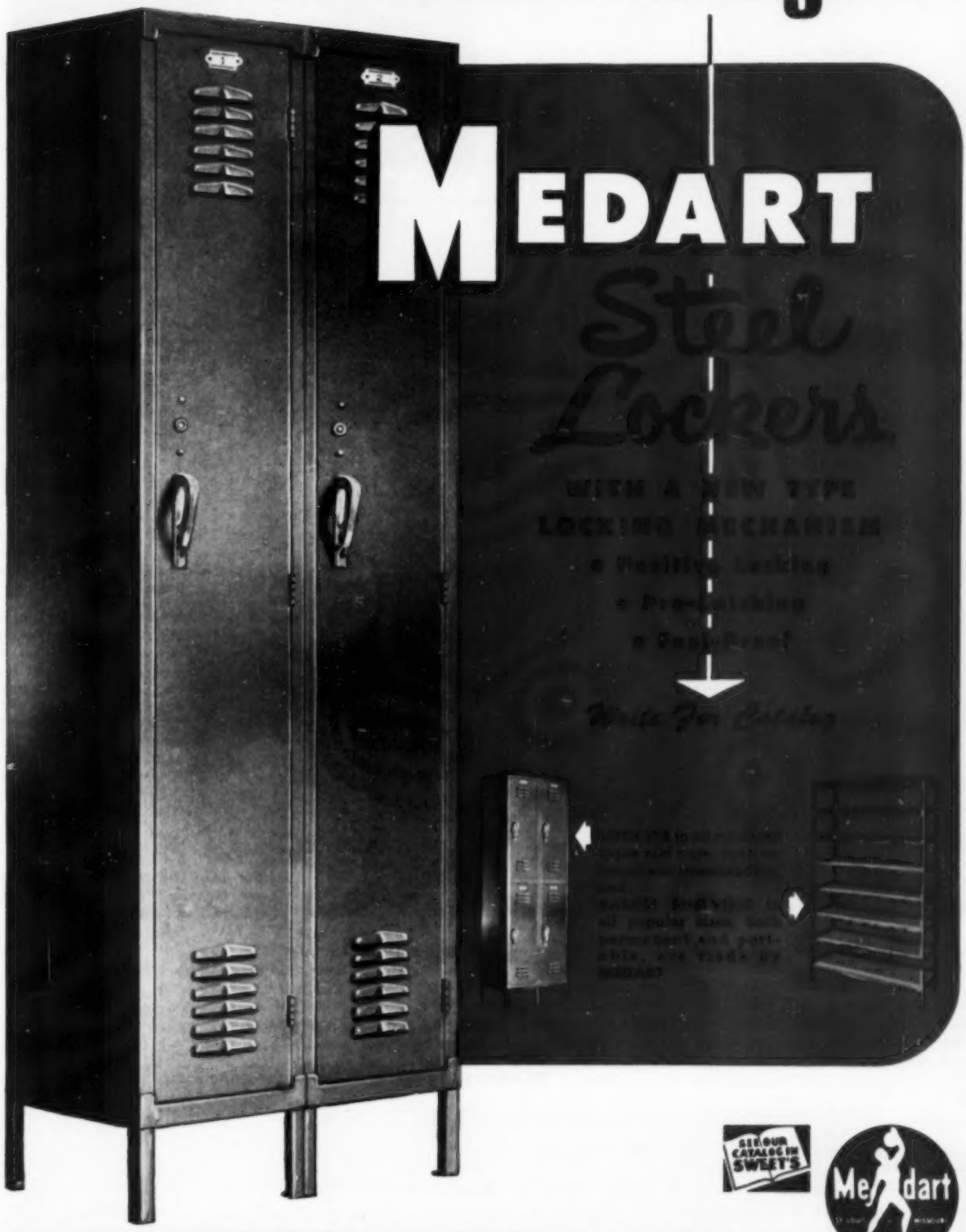
For your copy of the new Hospital Catalogue H53—and for detailed information on a variety of products in the broad American-Standard line—call the American-Standard sales office serving you.

AMERICAN-Standard

American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pa.

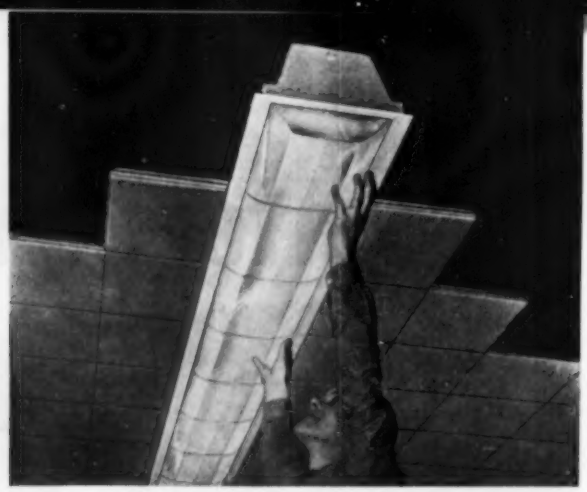
Serving home and industry: AMERICAN-STANDARD · AMERICAN BLOWER · CHURCH SEATS & WALL TILE · DETROIT CONTROLS · KEWANEE BOILERS · BOSS EXCHANGERS · SUNBEAM AIR CONDITIONERS

better can't be bought!

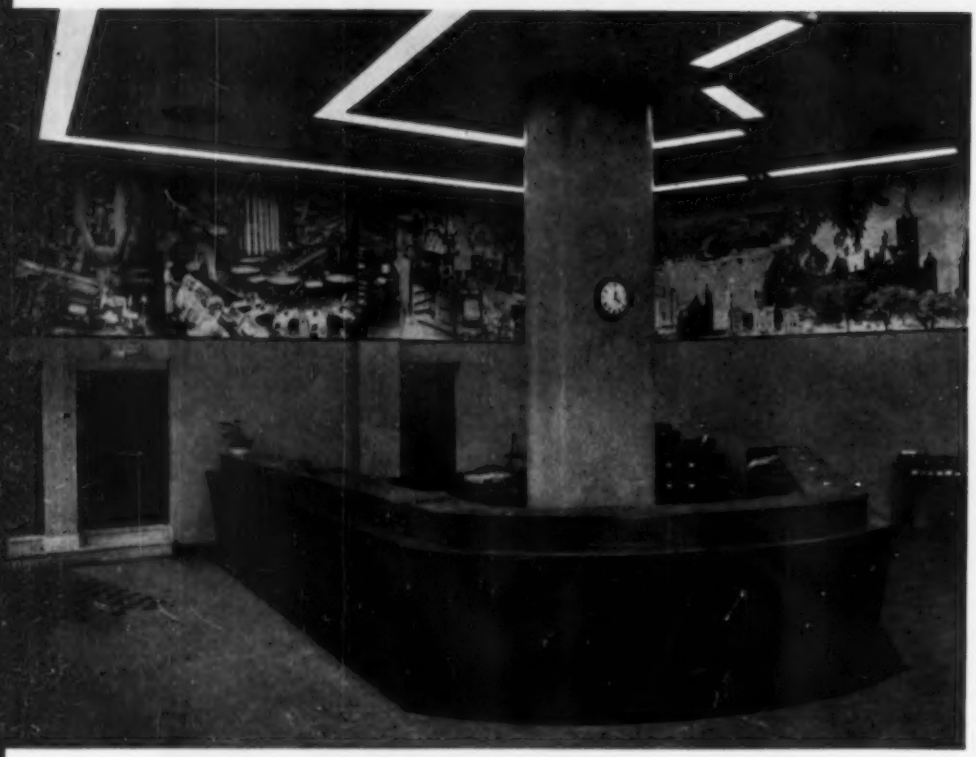


FRED MEDART PRODUCTS, INC. • 3576 DEKALB ST. • ST. LOUIS 18, MO.

new product



Functional troffers installed to form unbroken line of light



LPI troffers give architects complete freedom in planning lighting arrangements

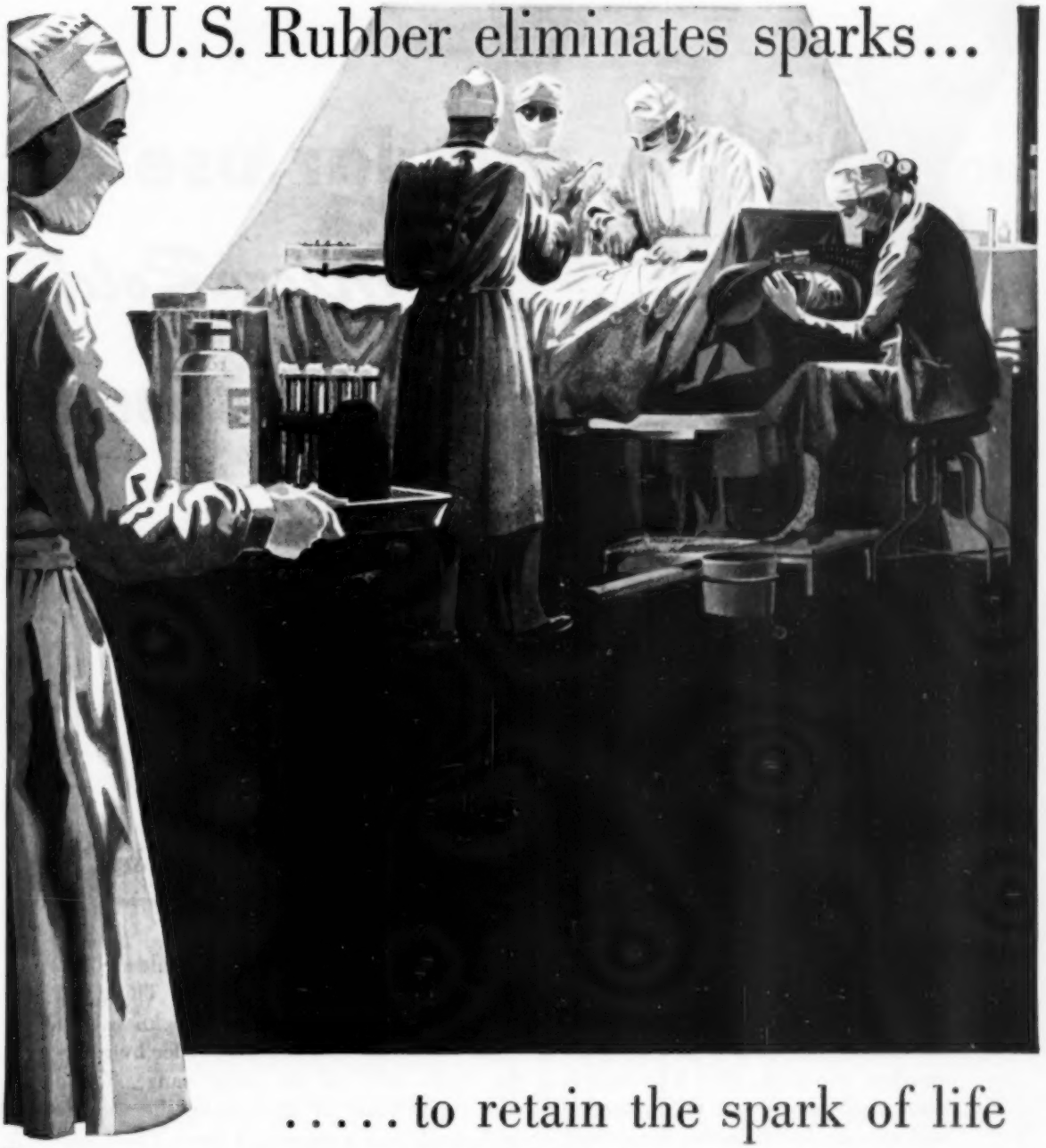
New troffers, *designed and built by Lighting Products, Inc.*, can be installed glass to glass to form a line of light unbroken by dividers. These troffers are adaptable to any known form of ceiling, and offer a wide selection of shielding media, including metal and plastic louvers, Holophane lenses (flat and curved), Albalite glass (flat and dished), and dished Plexiglas. All are interchangeable in the LPI troffer frame. This frame is quickly and easily slipped into place (no tools required) and is secured by a stable floating hinge, hidden from view. This eliminates the need for screws or other fastening devices which would mar the neat, clean appearance of the trim.

The unitized boxed construction of the LPI troffer body results in exceptional rigidity and assures perfect alignment in long runs. Engineered to prevent light leakage, the LPI troffer will accommodate from one to four lamps (preheat, rapid start, and slimline). It requires less than 8 inches in the ceiling and is suspended by LPI's patented Flexahanger which permits the contractor to install and adjust the troffer with complete accuracy. All lengths are standardized—24″, 48″, 72″, and 96″. They come in 12″ and 24″ widths.

For additional information and literature write Lighting Products, Inc., Dept. 1A, Highland Park, Illinois.

No screws or other devices mar the appearance of the troffer trim

U.S. Rubber eliminates sparks...



..... to retain the spark of life

In an operating room the very friction from walking, or the rubbing of clothes, could easily generate enough static to start a spark from the ordinary floor. The spark, igniting highly inflammable anesthetic gases, would cause a disastrous explosion. But no sparks occur with U.S. DURITE HOSPITAL FLOORING*, made of *conductive* rubber, because it prevents the accumulation of dangerous electric static charge. This material is not only completely spark- and skid-proof, it is also long-wearing, easy to clean, and very good-looking.

Here is one of the 30,000 ways in which "U.S." serves every phase of life —whether it be in the home, in industry, in transportation or medicine. Whatever the "U.S." product you choose, you can be sure it is a *quality* product that gives you more *economy*. Our 27 District Sales Offices, each with its staff of engineers, are at your service. Or write to address below.

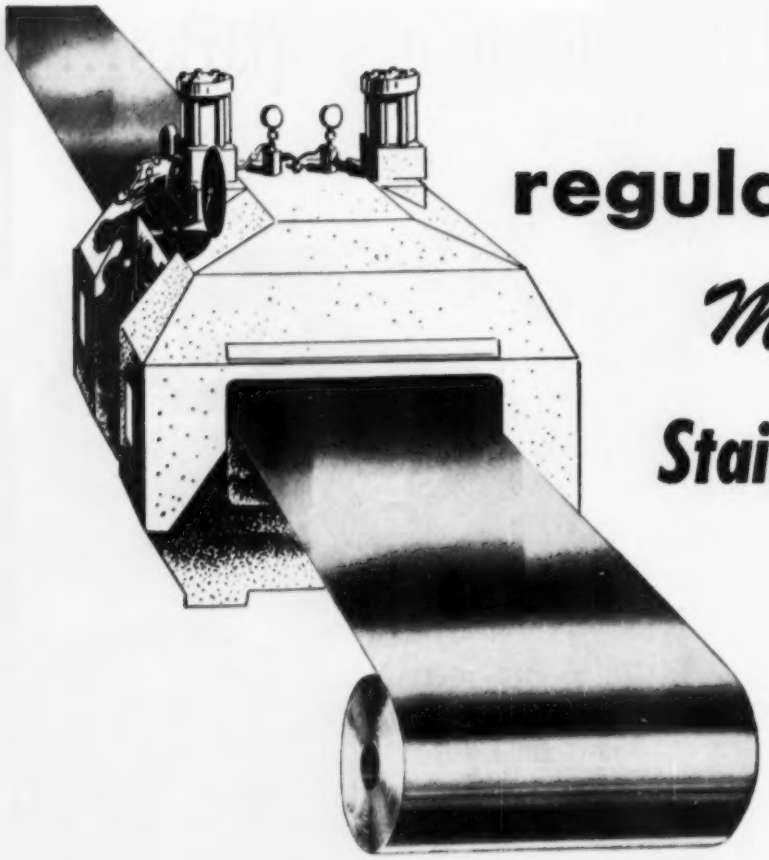
*Approved by Underwriters' Laboratories, Inc.

"U.S." Research perfects it..."U.S." Production builds it...U.S. Industry depends on it

UNITED STATES RUBBER COMPANY

MECHANICAL GOODS DIVISION · ROCKEFELLER CENTER, NEW YORK 20, N. Y.

Hose • Belting • Expansion Joints • Rubber-to-metal Products • Oil Field Specialties • Plastic Pipe and Fittings • Grinding Wheels • Packings • Tapes Molded and Extruded Rubber and Plastic Products • Protective Linings and Coatings • Conductive Rubber • Adhesives • Roll Coverings • Mats and Matting



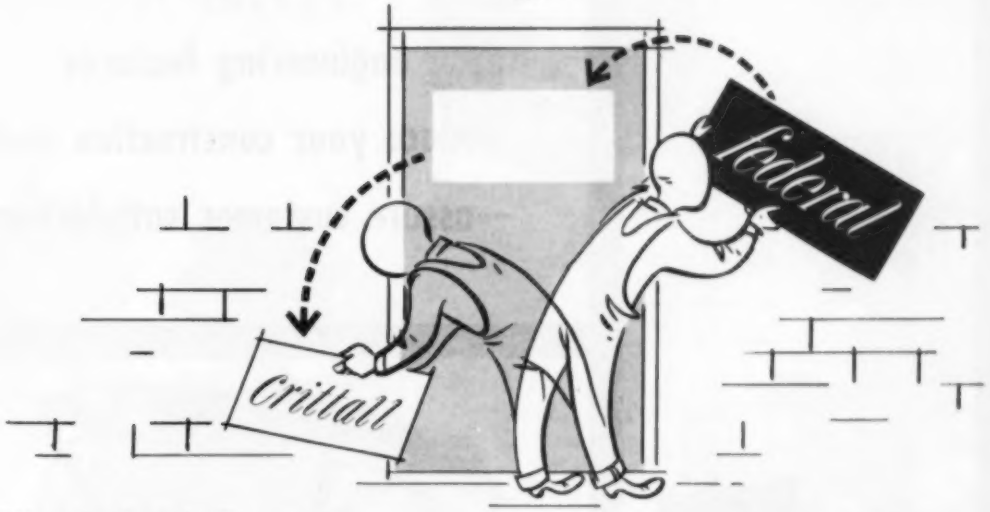
regular use of *MicroRold®* Stainless Sheets

SAVES MONEY!

Stainless sheets are usually ordered by gauge number—with permissible A.I.S.I. thickness variation of plus or minus 10%—but are sold on a weight basis. Thus, you may order 18 gauge, needing about .0475″ thickness, and receive .052″ thickness. But MicroRold may be held to a 3% plus or minus tolerance; and you may order by gauge number, specifying that it be rolled on the "light side" of the gauge range. While these savings may not be apparent in every single sheet of MicroRold, the weights will average less than the theoretical when figured over a period of time. These savings can be substantial in your annual profit picture.

Washington Steel
CORPORATION
WASHINGTON, PENNSYLVANIA

Look We've Changed Our Name

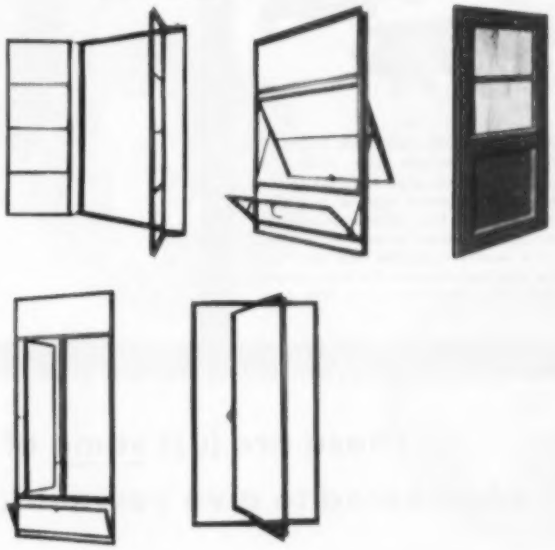


The **FEDERAL** name is a familiar one to architects and builders who have always demanded the best in steel windows for all types of building projects.

The **FEDERAL** name dates back to 1921, when our company introduced an entirely new concept of industrial steel windows. These were unique in that they were solidly welded at every joint. They have since become firmly established as the standard of quality in industrial steel windows.

Today, as we resume the time-honored **FEDERAL** name, we bring you America's finest and most complete line of all-steel windows. These include Intermediate windows, Residence casements, Architectural Projected and Commercial Projected windows, as well as sliding and swinging industrial steel doors.

FEDERAL'S expert technical sales representation is available to serve the architect, the contractor and the owner. We invite your inquiries.



FEDERAL WINDOWS INC.
1321 Lincoln Ave., Waukesha, Wis.

Please send complete information on Federal Windows.

Name .....

Address .....

City ..... State .....

federal Windows Inc.

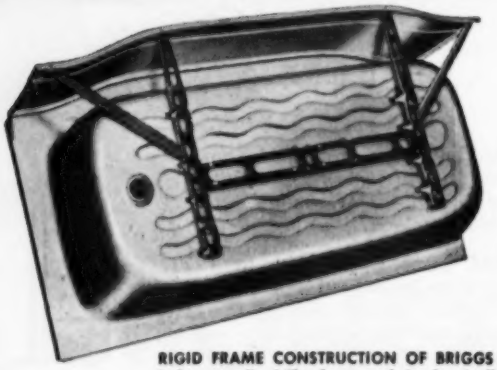
WAUKESHA
WISCONSIN

The ALL-AMERICAN Windows for Institution, Industry and Residence

WALL-SURFACE TUB AND SHOWER FITTING for copper tube, solder-joint use. All parts are engineered for perfect fit—can be soldered together in a jiffy. Designed for fast, efficient installation on finished surface of wall. All working parts readily accessible from the front for easy maintenance. No leaks behind wall. Also available as tub filler only.

BRIGGS'

engineering features reduce your construction costs —assure customer satisfaction



RIGID FRAME CONSTRUCTION OF BRIGGS TUB makes it *free-standing!* The framework is electrically welded to 24 spots on the tub—automatically fixes the tub in position, independent of wall support. Installation is *much* faster — considerably easier. Tub support and proper drainage are ensured.

These are just some of the Briggs features engineered to give you quick, trouble-free installations

Briggs plumbing ware products have been engineered to eliminate unnecessary installation time and cost wherever possible.

In addition to the two time-saving features illustrated above, there are several others listed at right. These features—along with the traditional Briggs high quality—assure efficient, trouble-free operation and absolute customer satisfaction.

Always specify dependable Briggs Beautyware! You'll find the savings in time and trouble well worth your while.

©1954

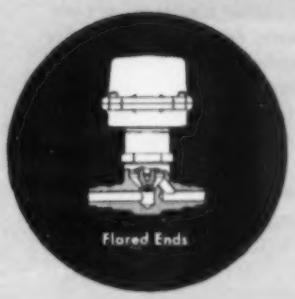
- **Jiffy pop-up lavatory drain is installed in 4 simple steps.**
- **Closet combination has only 2 bolts for faster installation.**
- **Unique key-slot design speeds leg and towel bar attachment.**
- **Trip-lever tub drain requires no cutting to fit any regular-sized tub.**

BRIGGS MANUFACTURING COMPANY • DETROIT 26, MICHIGAN BRIGGS

POWERS

First with duo-seal

PACKLESS CONTROL VALVES

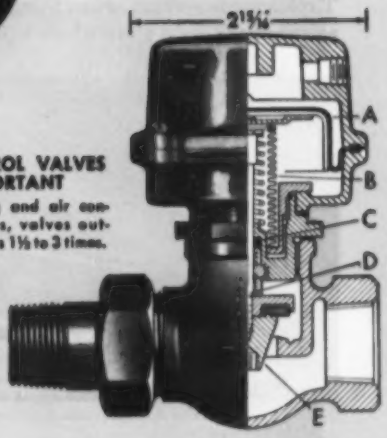


DURABLE AIRTIGHT CONSTRUCTION

GOOD CONTROL VALVES ARE IMPORTANT

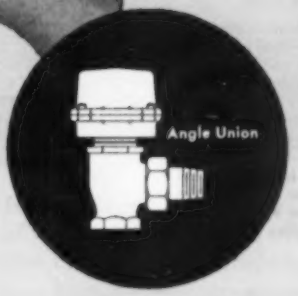
On many heating and air conditioning systems, valves outnumber thermostats 1½ to 3 times.

Available in Various Types and Sizes



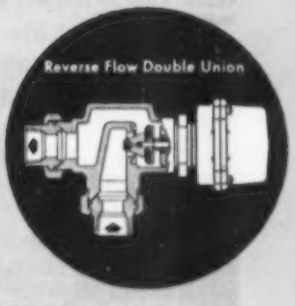
Rugged Cast Aluminum Top

A) Durable Molded Diaphragm
B) Bronze Bellows, Primary Seal
C) "O" Ring, Secondary Seal
D) Polished Stainless Steel Valve Stem
E) Characterized Throttling Nut



More ACCURATE Control with Powers PACKLESS Valves

Minimum valve stem friction. No packing nut or gland to be tightened, oiled or adjusted. No binding of valve stem as with conventional packing. Powers **duo-seal construction** assures better performance and—



No Packing Maintenance. No Leakage of Water or Steam. No Loss of Vacuum.

To insure getting a temperature control system with the best control valves made for convectors, unit air conditioners, unit ventilators, radiators, panel heating and cooling coils—specify or install POWERS pneumatic control.

Established in 1891 • **THE POWERS REGULATOR COMPANY** • SKOKIE, ILL. • Offices in Over 50 Cities

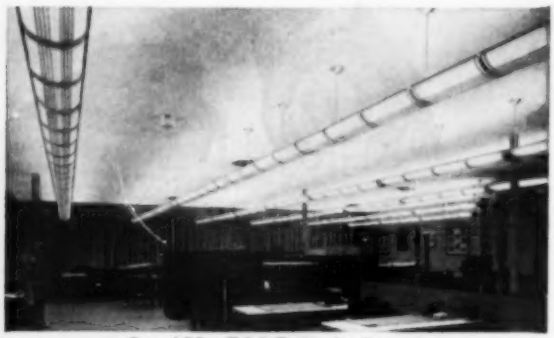
(9-72)

Architectural and Engineering Firms Light Their New Buildings with Wakefield STARS

For years Sanzenbacher, Morris and Taylor, Toledo architects and engineers, and the Toledo Engineering Company, specializing in glass plants, have worked together on many a project. When one decided to move from crowded downtown quarters to a new home on Toledo's outskirts, the other followed suit. Result: two new modern attractive one-story buildings side by side on the city's edge.

In designing both buildings, Sanzenbacher, Morris and Taylor made certain of one thing; they would rid themselves of the light glare which had plagued the drawing boards and offices of themselves and their fellow firm in their old quarters. Mr. Elmer Brigham, the architectural firm's electrical engineer, surveyed a variety of luminaires and purchased the Wakefield Star. His studies showed him that the Star put most of the light on the ceiling to be evenly distributed throughout the room; that there was little if any direct or reflected glare; that the resulting low brightness lighting made for almost effortless seeing. *The F. W. Wakefield Brass Company, Vermilion, Ohio. In Canada: Wakefield Lighting Limited, London, Ontario.*

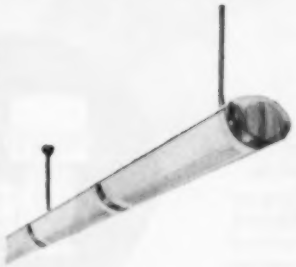
Drafting Room, Sanzenbacher, Morris & Taylor



General Office, Toledo Engineering Company

LIGHTING INSTALLATION FOR SANZENBACHER, MORRIS & TAYLOR

Drafting Room has continuous fenestration, 6 feet high by 76 feet long, on north side of building. Drafting Room and General Office have acoustical tile ceilings, light colored walls and light colored asphalt tile floors.
Continuous rows of 2-lamp Wakefield STARS, placed on 7′-9″ centers and equipped with the 96T12 warm white lamp, were used.
There are thirty-three eight-foot luminaires installed; three rows (2 circuits per row) in the Drafting Room, and two rows in the General Office. Fifty to fifty-five footcandles are being maintained.



LIGHTING INSTALLATION FOR TOLEDO ENGINEERING CO.

General and Private Offices and Engineering Department have acoustical tile ceiling, light colored walls and drapes, light colored asphalt tile floor.
Continuous rows of 2-lamp Wakefield STARS, placed on 7′-0″ centers, and equipped with the 96T12 warm white lamp, were used.
There are fifty-two eight-foot luminaires installed which are wired on eight circuits.
Sixty footcandles are being maintained in the General Office area.

General Office, Sanzenbacher, Morris & Taylor

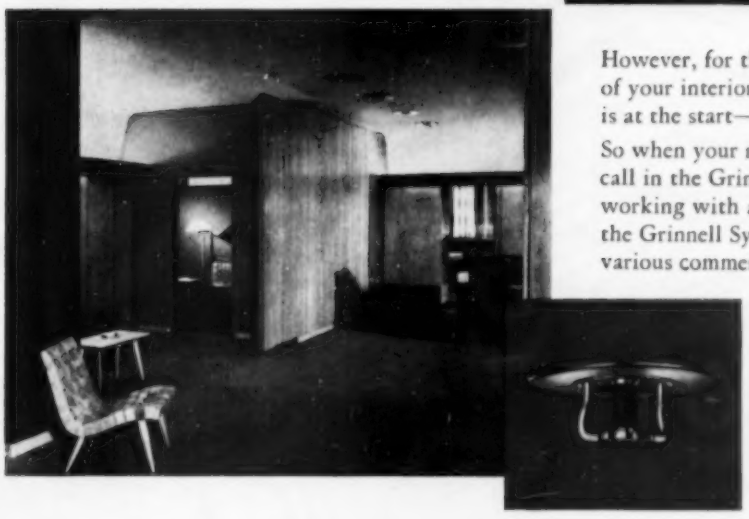
Private Office, Toledo Engineering Company

Wakefield Over-ALL Lighting

Your interiors can be both **BEAUTIFUL** and **FIRE SAFE**

A Grinnell Automatic Sprinkler System can become a harmoniously blended part of the interiors you design.

Extending just a scant inch below the line of the ceiling, Grinnell *Flush-Type* Ceiling Sprinklers are hardly noticeable. Yet they mount unremitting guard against fire—stand ready 24 hours a day to provide dependable protection from the very first flame.



However, for the sake of retaining the attractiveness of your interiors, the time to figure on fire protection is at the start—while your plans are still developing.

So when your next project is in the blueprint stage, call in the Grinnell engineer. Long experienced in working with architects, he can give you details about the Grinnell Systems of fire protection designed for various commercial, industrial and institutional buildings. There is no obligation. Grinnell Company, Inc., 284 West Exchange Street, Providence, Rhode Island. Branch Offices in Principal Cities.

GRINNELL PROTECTION AGAINST EVERY FIRE HAZARD

Manufacturing, Engineering and Installation of Automatic Sprinklers Since 1878

so you think you're saving money?

Far too often people figure lighting fixtures are all alike and buy by price tag alone. You may save a dollar or two on the price of each unit, but are you really saving money?

Today's carefully engineered lighting installations are planned with units that are designed to deliver more light at less cost. *Fewer units are required to secure the same results.* So, installation costs are less. And most important, power and maintenance costs are less during the whole life of the installation.

Take the Smithcraft DIRECTOR, for example. A recent comparison test by one of the nation's leading electric utilities clearly demonstrates that the Director produces more light and better light than ordinary fixtures.

Installed in literally thousands of banks, stores, schools and similar locations across the United States, the Smithcraft Director is in a class by itself for appearance, for quality of lighting and for soundness of investment. Be sure to get the complete story on the Smithcraft Director before relighting or when planning new installations. Ask us to send you our Smithcraft Director folder.

Photograph shows Director installation in the offices of the Credit Representative of the First National Bank of Boston, Empire State Building, New York.

BUY LIGHTING — NOT FIXTURES. *INVEST* IN AMERICA'S FINEST FLUORESCENT LIGHTING by

Smithcraft

LIGHTING DIVISION

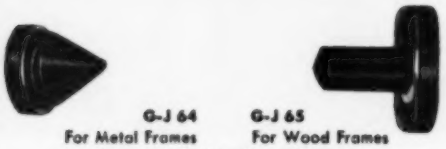
CHELSEA 50, MASSACHUSETTS

"... the patient must have absolute quiet."

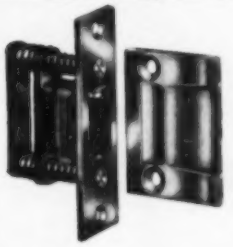
GLYNN-JOHNSON

devices for HOSPITAL ROOM DOORS

G-J 320
Concealed Door Holder—Friction Control
. . . keeps the door stationary, always under control. Prevents idle swinging and slamming. Gentle hand pressure moves the door to desired positions.



G-J 64 For Metal Frames
G-J 65 For Wood Frames
Pneumatic Rubber Door Silencers
. . . form pneumatic air pockets when compressed by closed door. This provides exceptional cushioning power to prevent both door noise and latch rattle.



G-J 30
Roller Latch
. . . eliminates the annoying click of latch bolts. As the door is closed, the rubber roller contacts the strike and becomes engaged in the strike plate depression—with complete silence.

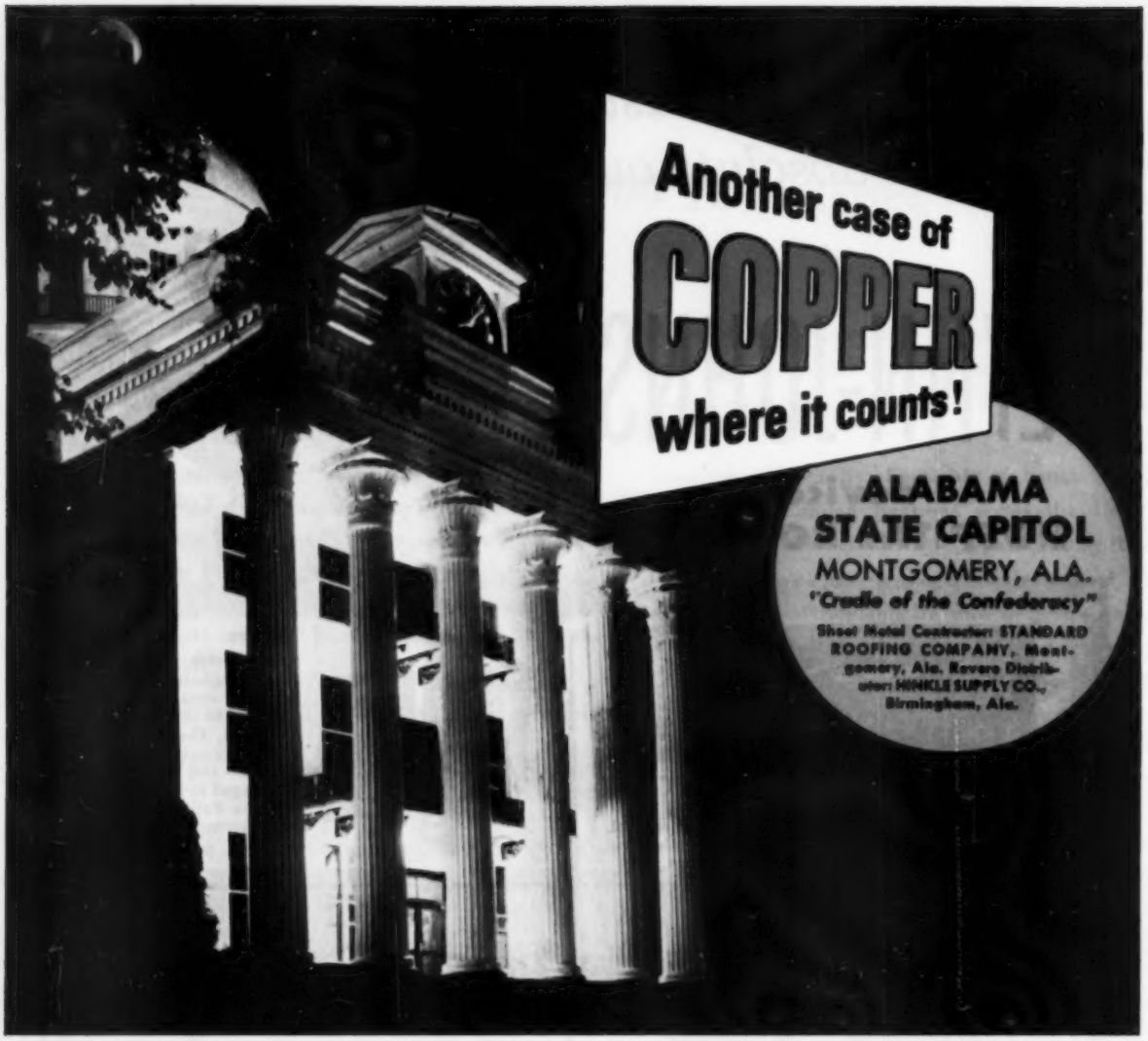
G-J KH-1
Hospital Door Arm Pull
. . . helps nurses and attendants avoid waste motion and unnecessary noise by permitting them to open and close doors with their arms, when their hands are occupied with trays or other articles.

These and many other G-J door devices are today being used on every type of door in thousands of hospitals and institutions throughout the nation, where, in addition to providing complete, efficient, and economical service, they are answering the need for silent performance of duty, expressed by the doctor's caution, "*Above all, the patient must have absolute quiet.*"

4944

Glynn-Johnson Corporation
Builders' Hardware Specialties for over 30 Years
4422 N. Ravenswood Ave. Chicago 40, Illinois

Refer to G-J Catalog for complete line of door holders, bumpers, and specialties . . . for all types of doors in public and commercial buildings.



Once again a roof of Revere Copper replaces one of rustable material. The State Architectural Department was finding that repairing the damage done due to recurring leaks was an expensive proposition. So when they re-roofed they selected enduring, non-rusting Revere Copper.

Since the enduring qualities of copper have been proved for centuries you don't take chances when you use this "ageless" metal. Truly, "Trouble is more expensive than copper." A good way to avoid trouble is to write "COPPER" into your specs. It's the metal that makes itself at home in buildings of the most modern or the most formal design.

There's a Revere Distributor near you who stocks Revere Sheet, Strip or Roll Copper for flashing and roofing. Write us about Revere Keystone Thru-Wall Flashing* and the new Revere-Keystone 2-Piece Cap Flashing.** And, if you have technical problems, we will put you in touch with Revere's Technical Advisory Service.

*Patented **Patent Pending

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

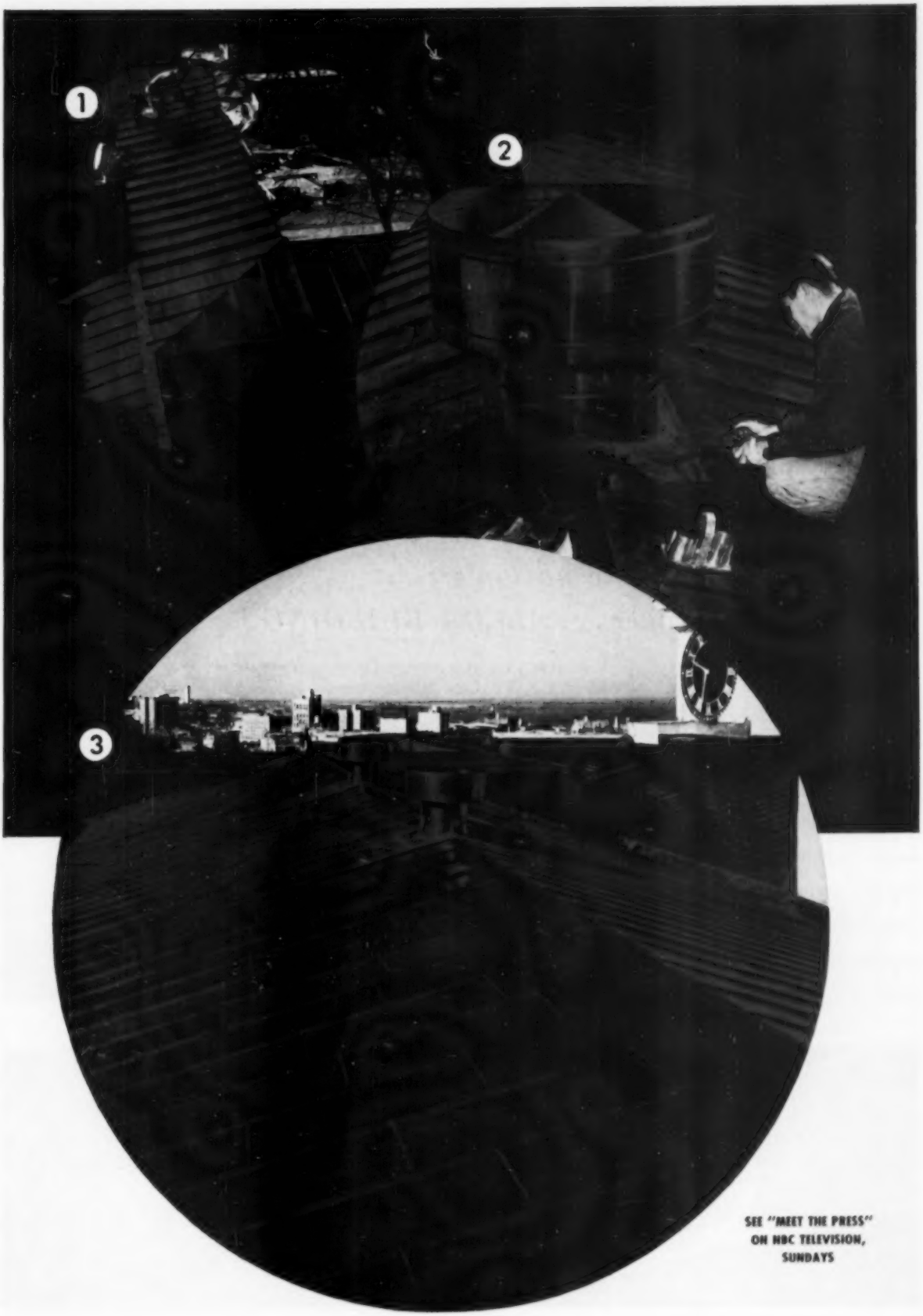
230 Park Avenue, New York 17, N. Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.; Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.— Sales Offices in Principal Cities, Distributors Everywhere.

1. **PUTTING FINISHING TOUCHES** on 6-ft. wide parapet. A total of 32,000 lbs. of Revere 16 oz. Cold Rolled Sheet Copper was used. Installation was made as recommended in Revere's Booklet, "COPPER AND COMMON SENSE." Do you have a copy?

2. **SHEET METAL MEN** prefer copper to any other metal with which to work. One reason is because it is so readily cut, shaped and soldered. A regular iron at regular temperatures is used and there is no need to wipe off the flux after soldering. Working with a metal they like also makes for quality workmanship.

3. **THIS REVERE COPPER** standing seam roof will endure for years and years . . . will not rust. Because the old roof deck was rough and uneven ¾" plywood was used over the old surface, with 15 lb. roofing paper laid on the plywood to form a sound base for the copper.



SEE "MEET THE PRESS"
ON NBC TELEVISION,
SUNDAYS

. . . installed at the vital point of air delivery in the nation's first aluminum skyscraper . . . ALCOA BUILDING

TYPE D AEROFUSE DIFFUSERS AS INSTALLED IN ALCOA

In the heart of Pittsburgh's Golden Triangle, the gleaming Alcoa Building rises thirty floors, a dramatic new concept in multi-story building design and construction. In Alcoa, as in other outstanding buildings from coast to coast — where the efficient performance and attractive appearance of air distribution equipment must meet rigid engineering and architectural specifications — Aerofuse Diffusers were selected for installation at the *vital point of air delivery.*

The Name **HOPE'S** *Guarantees*

HOSPITAL WINDOWS

Memorial Mission Hospital, Asheville, North Carolina

Six Associates, Inc., Architects & Engineers — *Barger Construction Co., Inc., General Contractors*

This view of the Memorial Mission Hospital above shows a portion of the large window wall areas made possible by the use of Hope's Pressed Metal Subframes. The abundance of controlled natural light . . . the spaciousness created by these large glass areas . . . are beneficial to the convalescing patients and provide a pleasant working atmosphere for the hospital staff.

In addition, some seven hundred Hope's Intermediate Casement Window Combinations of various types and sizes provide fully controlled, draft-free ventilation and complete weather protection.

Again and again architects specify Hope's Steel Windows because of their unsurpassed structural strength and rigidity, lifetime durability, minimum of maintenance, dependable operating mechanism, ease of cleaning and screening from inside, and because their variety in layout offers complete freedom in design.

Write for Catalog 134AF.

HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

solve your expansion problem

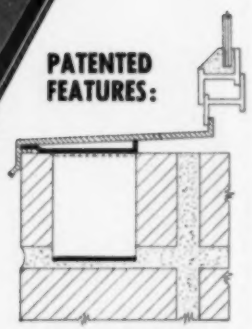
... specify Overly ALUMISILL

Wherever expansion and contraction cause sill trouble, specify *Overly Alumisill.* It has unique mechanical interlocking joints, widely tested and proved in installations all over the United States. Firm anchorage and water-tight joints are assured. No caulking materials are used at joints or jambs. • For details on these modern, maintenance-free aluminum window sills, write for Catalog 7-B.

OVERLY MANUFACTURING COMPANY
GREENSBURG, PENNSYLVANIA
LOS ANGELES 39, CALIFORNIA

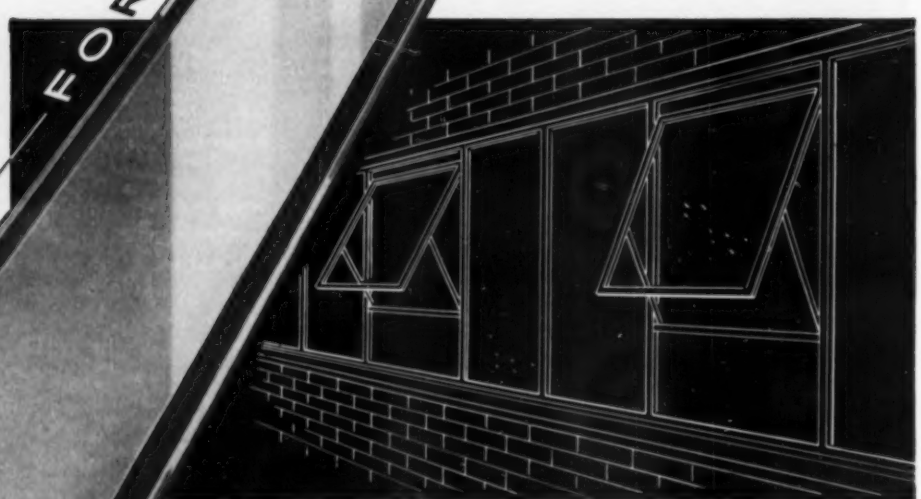
FOR LONG RUN SPANS

PATENTED FEATURES:



detail of anchor

detail of expansion joint



Another outstanding children's hospital

equipped with

JOHNSON CONTROL

Skillful advance planning is reflected in the many superb facilities of Seattle's new Children's Orthopedic Hospital. Among the noteworthy features of this modern building is the complete Johnson System of Automatic Temperature Control which constantly guards the health and comfort of its patients.

Like *every* Johnson System, this installation was designed specifically to meet the particular requirements of each of the areas served. Optimum temperature and humidity conditions in operating rooms, hydrotherapy rooms and other vital spaces are maintained at all times by Johnson Room Thermostats and Humidostats operating Johnson Valves and Damper Operators. Complete safety, even in the presence of explosive anesthetic gases, is assured by the use of *pneumatic* control apparatus.

In other areas, Johnson *Individual Room* Thermostats operate convector valves and provide efficient operation of unit ventilators. The balance of the direct radiation is under the control of modern weather-compensated Johnson Electronic Duo-Stat zone control. All apparatus is combined into a single "Planned-for-the-Purpose" Control System that provides maximum comfort at the lowest possible operating cost.

Johnson Control automatically insures the ultimate in comfort, convenience and economy. Any hospital, new or existing, can enjoy its many special advantages. Whether your problem involves a single operating room or an entire hospital, it will pay you to discuss it with an engineer from a nearby Johnson Branch Office. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.

JOHNSON CONTROL

TEMPERATURE ↕ AIR CONDITIONING

MANUFACTURING • PLANNING • INSTALLING • SINCE 1885

there's money in modernizing on main street

with MASONITE PRESDWOOD

The butcher, the baker, the grocer, too... every merchant welcomes extra business. And a proved way of attracting more customers is through a modernizing program.

And, you can sell more remodeling jobs when you use Masonite Presdwood. This modern material enables you to achieve better results at lower cost. There are 33 types and thicknesses of this famous hardboard, and you can get just the one you want for practically any modernization problem.

We have just prepared a series of plans that show how eleven different types of stores can be made attractively modern with Presdwood®.

May we send you this set at no obligation? It will be helpful in talking to your prospects. Just send the coupon.

Presdwood is sold by building materials dealers everywhere.

PRESDWOOD WOOD MADE BETTER

NATURALLY STRONGER WITH LIGNIN

MASONITE® CORPORATION

Dept. PA-7, Box 777, Chicago 90, Ill.

"Masonite" signifies that Masonite Corporation is the source of the product

I'm interested. Please send me your set of eleven folders on Commercial Modernization.

Name.....

Firm.....

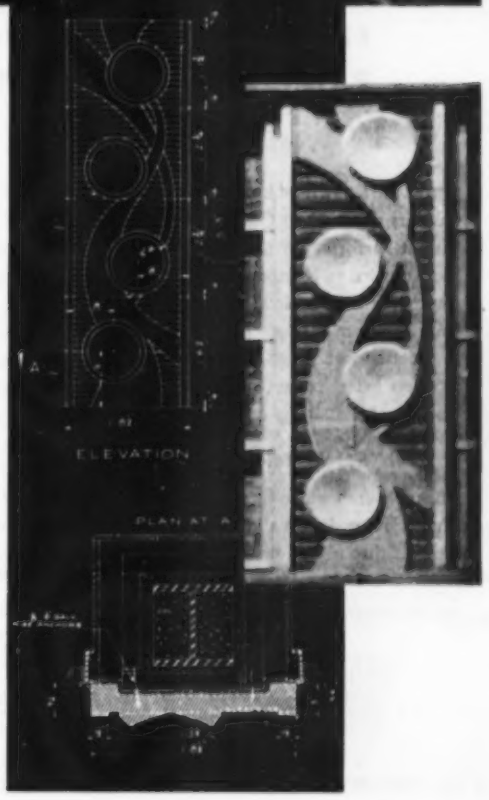
Address.....

Town.....Zone.....

County.....State.....

MANATEE VETERANS MEMORIAL HOSPITAL
BRADENTON, FLORIDA
Bail, Horton and Associates, *Architects*
Larsen Bros.-John Rasmussen, *Builders*

Decorative shield and facing for ninety-two columns is polychrome Architectural Terra Cotta.



Hospitals need not be cold and colorless!

With Architectural Terra Cotta, you can design freely... and create in lasting color. The versatility of this modern, yet time-proved material is unrivaled. It is custom-made to your specifications, in an unlimited range of ceramic colors, in units large or small, for exteriors or interiors, plain surfaces or decorative sculpture. For the projects now on your boards, consider Architectural Terra Cotta's many advantages—quality, color, appearance, permanence and price. Remember too, that its original richness is retained indefinitely by simple soap-and-water washings.

Construction detail, data, color samples, estimates, advice on preliminary sketches, will be furnished promptly without charge on Architectural Terra Cotta and Ceramic Veneer.

FEDERAL SEABOARD TERRA COTTA CORPORATION

F S T C

10 East 40th Street, New York 16, N. Y.
PLANTS AT PERTH AMBOY AND SOUTH AMBOY, N. J.

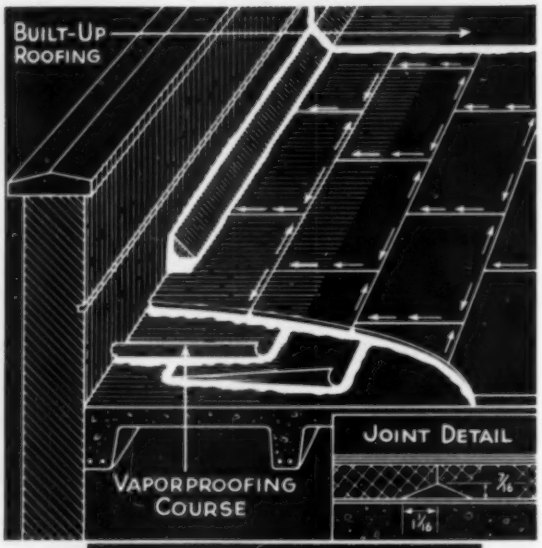
Guard against blistering...

separation of felt and insulation

with new

CELOTEX Channel-Seal

ROOF INSULATION



Channel Close-up.

EXCLUSIVE CHANNELING PRINCIPLE PROVIDES NEEDED PROTECTION!

Across the length and breadth of the roof it covers, new Celotex Channel-Seal Roof Insulation forms an actual *network* of interconnecting channels. These "escape routes" permit free circulation of air away from high-pressure air pockets beneath the roof surface. With this exclusive design, an extra margin of safety against costly roof damage is assured.

How "Safety Release" Works

Channels are formed by the bevels (7/16" high, 1 1/16" wide) on all bottom edges of units as they're laid on the deck. High-pressure areas, building up from rising surface temperatures, are relieved by air movement through the channels. These built-in safety releases equalize and reduce pressure, minimizing the danger of blistering and separation of felt from insulation. This is protection no ordinary roof insulation can match!

Celotex Channel-Seal Roof Insulation provides high insulating efficiency. It comes in a range of thicknesses to meet the specific insulation requirements of each job. Both sides, all edges are asphalt coated for extra moisture protection in storage and on the job.

Low-Cost, Easy to Apply

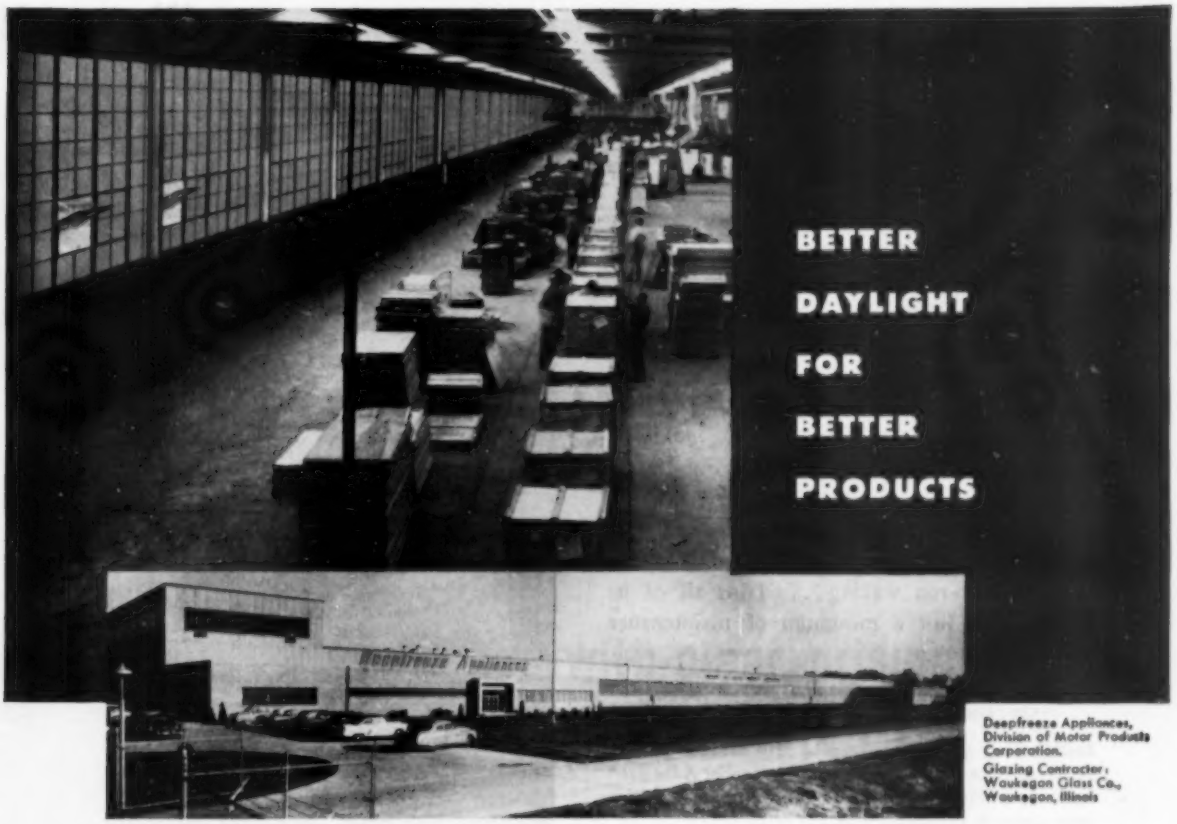
Light and easy to handle, yet remarkably rigid and tough, Channel-Seal is low in both initial and applied cost. Resists damage from job handling. Quick, simple to apply. Smooth surface assures positive bond to both roof deck and roofing felt.

Specify and insist on genuine Celotex Channel-Seal . . . the only roof insulation made of tougher, stronger, long Louisiana cane fibers—effectively protected by the Ferox® Process against dry rot and termite attack. Write now for full data on Channel-Seal and other types of job-proved Celotex Roof Insulation. Just address The Celotex Corporation, Dept. PA-74, 120 S. LaSalle St., Chicago 3, Ill.

For a better roof—specify genuine **CELOTEX** REG. U. S. PAT. OFF.

ROOF INSULATION

THE CELOTEX CORPORATION • 120 SOUTH LA SALLE STREET • CHICAGO 3, ILLINOIS



Deepfreeze Appliances, Division of Motor Products Corporation.
Glazing Contractor: Waukegan Glass Co., Waukegan, Illinois

New Deepfreeze Plant Installs Coolite Glass To Eliminate Harmful Effects of "Raw Sunlight"

Deepfreeze, famous manufacturer of modern appliances for modern living, recognizes the importance of proper factory lighting to boost efficiency and employe morale. "Raw Sunlight" contains many factors that adversely affect your workers and their output. Excess solar heat makes interiors uncomfortable . . . and blinding glare makes seeing tasks difficult and tiring. This new Deepfreeze plant is glazed with 8000 square feet of Mississippi Coolite, Heat Absorbing, Glare Reducing Glass, which effectively controls the quality of light flooding work areas . . . banishes objectionable glare . . . cuts costly eye fatigue that results in seeing errors.

The Coolite in this modern plant is glare reduced on both sides, affording a maximum diffusion of light with a minimum of glare. Workers see better . . . feel better . . . work better in better light by Coolite.

Specify Coolite in your new construction and modernization projects. See how it can provide increased economy and efficiency for your clients. Call your nearby Mississippi Glass distributor today.

Send for free catalog, "Coolite Heat Absorbing and Glare Reducing Glass." Samples on request.

MISSISSIPPI *Glass* COMPANY

88 ANGELICA ST. SAINT LOUIS 7, MO.

NEW YORK • CHICAGO • FULLERTON, CALIF.

see our catalog in ARCHITECTURAL FILE or write for copy

WORLD'S LARGEST MANUFACTURER OF ROLLED, FIGURED AND WIRED GLASS

Why KENRUBBER is a superior resilient tile flooring—for hospitals and institutions

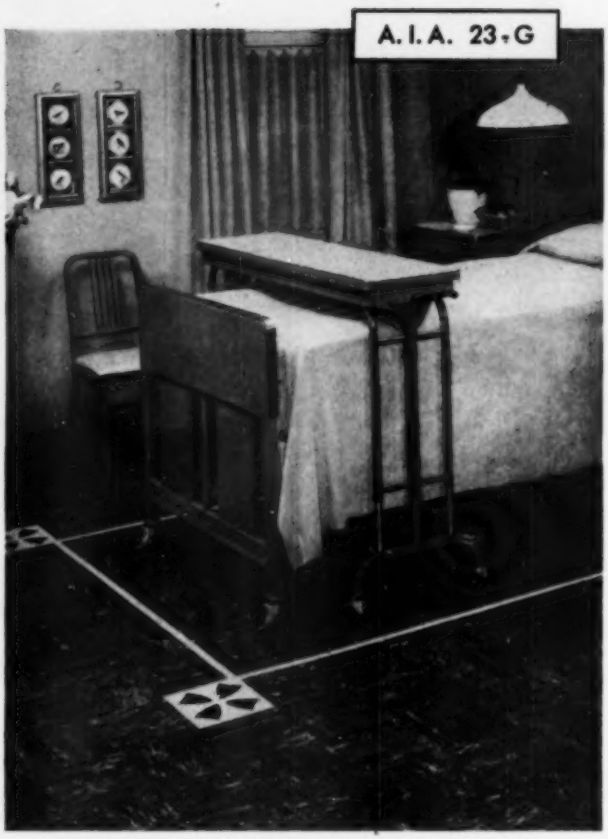
The unique qualities and practical advantages of KenRubber make it the ideal flooring for hospitals and institutions. Its "coiled-steel" strength and resilience insure outstanding resistance to wear and indentation . . . exceptional quiet and comfort underfoot that will not diminish even after years of heavy traffic. The richer, clearer marbleized colors can't wear off . . . provide an important contribution to modern interior design. KenRubber's pre-polished surface resists dirt and stain . . . continues easy to keep clean to the most exacting hygienic standards. It needs only an occasional no-rub waxing . . . retains all of its beauty with just a minimum of maintenance effort and expense.

SPECIFICATIONS AND TECHNICAL DATA

Installation: Over any smooth, firm interior surface removed from greases and oils. New KenSet Adhesive* makes possible fast, easy and economical installation over concrete in contact with the earth.

Thicknesses: KenRubber is available in .080" (standard gauge) and 1/8" gauge for normal flooring demands . . . 3/16" gauge for extra-heavy duty applications.

Sizes: Standard tile size is 9" x 9" . . . with a wide range of special sizes available on order.



KENRUBBER TILE FLOORS can be planned and designed to fill any decorative or functional need. For instance, the ThemeTile and Feature Strip shown in a private room here can easily and economically be installed in wards and corridors for directional lines, traffic lanes and area demarcations.

NEW KENCOVE flexible wall base, completes the ideal KenRubber installation . . . bridges the gap where floor meets wall. KenCove can't break, chip, crack or rot . . . can't support animal or bacterial life . . . never needs painting or refinishing.

Approximate Installed Prices (per sq. ft.)

	Standard (.080") Gauge	1/8" Gauge	3/16" Gauge
KENRUBBER	50¢	65¢	80¢

These costs are based on a minimum area of 1,000 sq. ft. over concrete underfloor. Cost of KenRubber's *exclusive* die-cut ThemeTile inserts available on request.

Samples and technical literature available to accredited architects, builders and designers. Get them from your Kentile Flooring Contractor or write the nearest office listed below. Be sure to request samples of exclusive ThemeTile, colorful Feature Strip and KenCove, all-purpose, flexible cove base.

KenRubber is the floor your clients know and want . . .
BACKED BY MORE FULL-COLOR CONSUMER ADVERTISING THAN ANY OTHER RUBBER TILE FLOOR

KENRUBBER TILE FLOORS ®

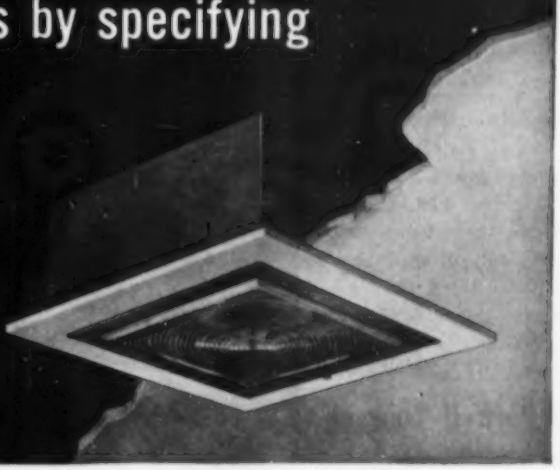
KENTILE • SPECIAL KENTILE • KENCORK • KENRUBBER • KENFLEX • KENFLOR

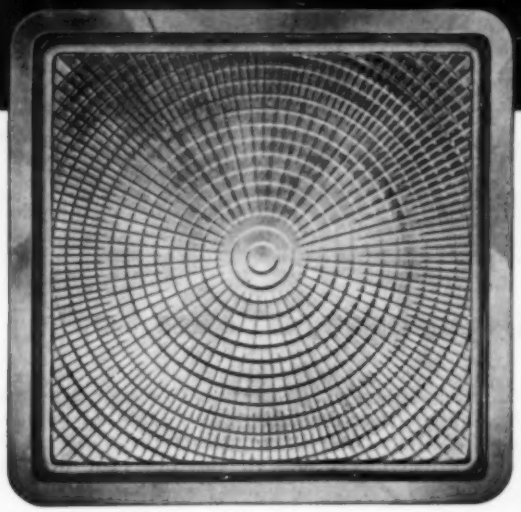
*REG. U. S. PAT. OFF.

KENTILE, INC., 58 SECOND AVENUE, BROOKLYN 15, NEW YORK • 350 FIFTH AVENUE, NEW YORK 1, NEW YORK • 705 ARCHITECTS BUILDING, 17TH AND SANSOM STREETS, PHILADELPHIA 3, PENNSYLVANIA • 1211 NBC BUILDING, CLEVELAND 14, OHIO • 900 PEACHTREE STREET N.E., ATLANTA 5, GEORGIA 3020 WALNUT STREET, KANSAS CITY 8, MISSOURI • 4932 SO. KOLIN AVENUE, CHICAGO 32, ILLINOIS • 4501 SANTA FE AVENUE, LOS ANGELES 58, CALIFORNIA

Offer clients these benefits by specifying

ART METAL advanced ELIPTISQUARE

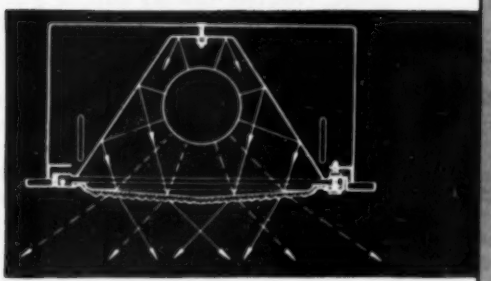




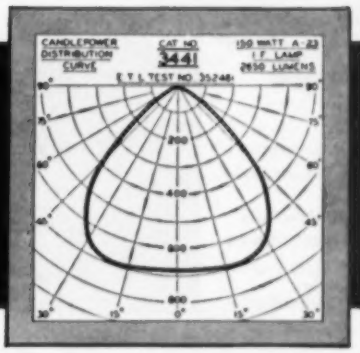
with clear, prismatic AMCOLENS

- Lighted objects reflect their true color value
- Highest light transmission efficiency
- Precise light direction control
- Edge light to ceiling for visual comfort
- Shallow recessed lens lighting

advanced ELIPTISQUARE
Multiplies Light Output



Eliptisquare reflector redirects *all* box-enclosed light downward through AMCOLENS to multiply lamp light utilization.



Please notice that the candlepower distribution curve is by Electrical Testing Laboratories, Inc., not The ART METAL Company.

May we send Bulletin 254 which gives complete details? Please write:

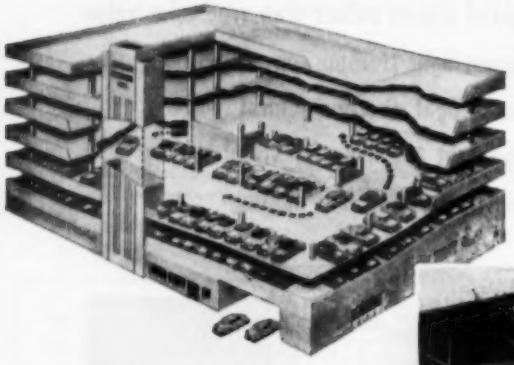
THE **ART METAL** COMPANY
CLEVELAND 3, OHIO

Manufacturers of Engineered Incandescent Lighting

PARKING–*Par Excellence*

Denison Park-It-Yourself Garage in Downtown Indianapolis

'INCOR'-Built for Earlier Occupancy, at Less Cost



DENISON PARKING, INC.
Ohio and Pennsylvania Sts., Indianapolis
Architects: **D. A. BOHLEN & SON,** Indianapolis
Planning Consultants:
RAMP BUILDINGS CORPORATION, New York
Contractor: **CARL M. GEUPEL CONSTRUCTION CO.**
Indianapolis
Ready-mix 'Incor' Concrete:
READY MIXED CONCRETE CORP., Indianapolis

● Downtown garage-parking is fast becoming a big-time industry. Standing out among the rapidly-growing number of well-designed, all-concrete parking structures is 700-car Denison Park-It-Yourself Garage, in the heart of downtown Indianapolis.

Instead of steep ramps, this attractive, ultra-firesafe building, concreted throughout with "INCOR" 24-HOUR CEMENT, has gradually-sloped floors with only 4% grade, for continuous, easy-drive spiral.

For lowest annual cost and utmost firesafety, concrete has the call in garage construction, and "Incor"* is the logical choice—for quality concrete, at maximum speed and minimum cost:

Forms stripped in 24 hours, faster form reuse, one third as many forms as with ordinary cement . . . 2 or 3 days less heat protection in cold weather . . . faster completion, lower overhead . . . earlier occupancy, at less cost.

Save time and money . . . use America's FIRST high early strength portland cement.

*Reg. U. S. Pat. Off.

LONE STAR CEMENTS COVER
THE ENTIRE CONSTRUCTION FIELD

LONE STAR CEMENT CORPORATION

Offices: ABILENE, TEX. • ALBANY, N. Y. • BETHLEHEM, PA. • BIRMINGHAM
BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS
KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK
PHILADELPHIA • RICHMOND • ST. LOUIS • WASHINGTON, D. C.

LONE STAR CEMENT, WITH ITS SUBSIDIARIES, IS ONE OF THE WORLD'S LARGEST CEMENT PRODUCERS: 18 MODERN MILLS, 136,000,000 SACKS ANNUAL CAPACITY

the architect's files: part 2

by Siegmund Spiegel*

drafting room (continued)

In last month's discussion of filing problems in the architectural office, the discussion covered six categories of technical material, preferably filed near the drafting room. In this article the discussion is continued, with reference files the main consideration. The next item to discuss, then, would be:

7. *Source Material File:* Material in this category consists of Plates, Articles, Reports, References, Research Notes, Specialized Structures, etc. It is valuable to have the material kept up-to-date and antiquated material eliminated from time to time. Into this category fall Standard Details which an office may have developed for its use. However, though some details may remain relatively "standard," every job may, more often than not, present individual problems which will make the "standard" at best a convenient reference.

Source Material, though constantly used, will not be used frequently by the majority of the men in the drafting room. It will be of more use in an area of the office where design work is done.

The AIA Document #261, *The AIA Filing System for Architectural Plates and Articles* is an excellent guide for filing material in this category. Although the actual listing in this guide may not be sufficient for registering the innumerable topics on which an architect may keep references, it is easily expanded by adding additional decimal subdivisions. Every item filed should be marked with its subject number so that it can be easily returned to the file after use.

Source Material filing can be accomplished by a secretary.

8. *Architectural Magazines and Other Subscriptions:* The magazines, in addition to illustrating the latest trends in the profession, form a valuable part of Source Material. In many instances they are kept intact and filed as a part of the Library. Once filed, they will primarily be of use to the design staff, rather than to the men on production work.

The (filing) drawback of most magazines seems to be the lack of comprehensive periodic indices which would permit easy reference to certain articles. For the last few years, there has been published *The Architectural Index*, which gives the content of the majority of the magazines on a yearly basis. The magazines indexed are: *Architectural Forum, Architectural Record, Arts and Architecture, House and Home,* PROGRESSIVE ARCHITECTURE, articles from *Interiors*, and articles from *Bulletin of the AIA*. If magazines are kept by an office, this index will prove to be a time saver.

9. *Library:* The Library, as distinct from the "working Library" consisting of material listed previously which is in daily use, may become quite extensive in an architect's office. Once it reaches proportions which require a breakdown into individual subjects, it has been found useful to assign separate shelves to each subject. A suitable breakdown could be based on such headings as: Planning, Housing, Redevelopment, Residences, Special Buildings (e.g., Shopping Centers, Churches, Airports, etc.), Technical (e.g., Climate, etc.), Art, etc.

Since not all books or major reports so filed are easily recognized, and if the amount of books is extensive, card indexes by Title and Author are helpful. Each book is marked with the number of its shelf and its own number on the shelf. These index cards should state the shelf number and the book number on the shelf. (This card may also be used for penciled notations, e.g., who took book and date.)

This type of Library will not be used over-frequently, and therefore need not be located in the drafting room. It should, however, be so located that the men have access to it.

The Library filing can be maintained by a secretary.

10. *Photo, Publicity, and Reprint*

* *Architect, Office Manager for Mayer & Whittlesey, Architects, New York, N. Y.*

Files: Small photos are best filed by jobs, alphabetically, loose in folders. Reprints of published articles are kept similarly, except that it is preferable to keep their order by date, the latest being at front. Large photos and brochures are kept obviously best in flat drawers.

These files, too, can be maintained by a secretary.

11. *Construction Cost Data:* Too frequently architects realize their lack of knowledge concerning construction costs. Actual job experiences will provide some individual job figures for cubic or square foot costs. While a job is being planned, material-cost comparison is made frequently. Comparative figures on a unit basis obtained from friendly contractors or manufacturers for various construction items are best recorded on a card index (note date for each information so obtained). A basic work file can be commenced with this card index. Occasionally a contractor's bid will reflect unit prices for all items of work. A copy of this information should supplement the card file.

In order to obtain at least a relatively good insight into construction costs, it is advisable to subscribe to various sources furnishing cost information. A few of these are: *Building Construction Cost Data* (R. S. Means) yearly; *Manual of Appraisals* (Boeckh); *Building Costs* (Boeckh) monthly; *Construction Market* (Dow) weekly; and other cost data prepared by various large contractors and local AIA groups.

As the material bearing on costs is rarely used by the majority of the men, it is best kept near the person most frequently concerned with cost questions.

12. *Job "Desk" Files:* This is merely a file kept by the Job Captain containing copies of all planning notes, memoranda, minutes of meetings, pertinent correspondence, etc., having direct bearing on his seeing the job through to completion. The originals are kept in the main office file.

the office boy and his function

Various duties originate from some of the above-mentioned filing systems, which help keep the Drafting Room in good working order. It is obvious that an architect could not afford to keep a senior technical employe occupied full time with such functions. A young man, aspiring to become an architect, is ideally suited for this work.

Such a young man, commonly known as office boy, among other duties generally has to keep the drafting room in order, attend to the various filing functions described above, check on and order supplies, order prints and distribute them as they are received, stamp these "received" and "issued," make out transmittal forms, etc. In addition to these functions, he may get a chance to help build models, conform duplicate shop drawings, and do occasional drafting, until such time as he may become so proficient in the latter so as to warrant his advancement to a junior draftsmanship—necessitating employment of a younger man to take over his office-boy function.

The office boy, in the conscientious performance of his duties, is an invaluable asset toward the efficient functioning of an office. He has the rare chance to see and learn in detail all the workings of an architect's office (usually not taught in schools): instead of having to learn the hard way, should he establish his own office in years to come, as is so often the case with a number of young men whose first job in an office puts them instantly "on the board."

This completes the author's discussion of filing of "technical" material in the office. As provision must also be made for filing of "nontechnical" material, that will be the subject for next month.

Bernard Tomson **it's the law**

IT'S THE LAW *(April 1954 P/A)* discussed the essential functions of a Board of Zoning Appeals and, in particular, the factors considered by a Board in granting a variance.

In recent years, a practice has been employed by cities, towns, and villages which constitutes a serious encroachment upon the powers of a Board. This practice consists of the granting by local governing bodies of certain "special permits" or "use permits" to property owners.

Such action by a governing body is in many if not most instances, unauthorized and improper. The State of New York has, as do all states, zoning-enabling acts which empower the cities and local governing bodies to enact zoning ordinances and appoint boards of zoning appeals. The enabling acts in New York do not delegate to the governing or legislative body the power to grant variances or grant administratively "special or use permits." Under the New York acts, it is the chief purpose and function of the board to grant or deny variances and their determinations are always subject to judicial review.

It is manifestly clear that when the local governing body grants a "use permit" for a use not permitted by the zoning ordinance, it is, in effect, amending the ordinance as to that particular parcel of property. Such action is legislative rather than administrative. As the local body is acting in a legislative capacity, there can be no summary review by a court.

The New York Court of Appeals in *Matter of Neddo* v. *Schrade*, 270 N.Y. 97, determined that the adoption of a resolution by the City Council of the City of Saratoga Springs transferring real property from a partially restricted to an unrestricted zone was not subject to review by certiorari. In labeling the action legislation, the Court declared as follows:

"The setting up of a Board of Appeals and the exercise by it of its limited statutory authority does not detract from the legislative power remaining in the City Council to amend, alter or change the lines of the zones. When application is made to this latter power, we find an instance where the City Council grants relief through legislative power reserved to it, even though a Board of Appeals may be functioning with concurrent power pursuant to a grant to the Board of statutory power." (p. 102)

There is no question of the power of the local governing body to amend from time to time its zoning ordinance, as to any or all properties. Such amendments, however, should encompass the same considerations and requirements that were applicable when the original ordinance was enacted. The Village Law of the State of New York (Section 177) prescribes that a zoning ordinance must deal with zoning the village "in accordance with a comprehensive" plan applying to the entire village. It must be designed to do the following things:

". . . lessen congestion in the streets; to secure safety from fire, panic and other dangers; to promote health and the general welfare; to provide adequate light and air; to prevent the overcrowding of land; to avoid undue concentration of population; to facilitate the adequate provision of transportation, water, sewerage, schools, parks and other public requirements. Such regulations shall be made with reasonable consideration, among other things, as to the character of the district and its peculiar suitability for particular uses, and with a view to conserving the value of buildings and encouraging the most appropriate use of land throughout such municipality."

Thus, when a governing body grants a "use permit," it is amending the ordinance without following its own comprehensive plan and such legislation is not calculated to effect the stated purposes and objectives contained in the enabling act of the state. Such action in many instances is actually a form of legislative discrimination against other parcels of property similarly situated. The property owners affected by such action are deprived of their court review which would be their right if the matter had been before the Board of Zoning Appeals. The granting of "use permits" constitutes, therefore, little more than a circumvention or usurpation by the municipal body of jurisdiction expresly reserved by the enabling statute to the board.

The courts have viewed critically, in some instances, the practice of local bodies granting "special uses". In *Village of South Orange* v. *Hiller*, 92 N.J. Eq. 505, the Court held invalid an ordinance that provided for granting of "special permits" by the Board of Trustees of the Village, after a hearing, to the property owners. The Court, in recognizing the discriminatory nature of the provision which could not apply to all citizens alike throughout the district, said as follows:

"Discretionary powers reserved to the trustees to give to one and to withhold from another the privilege of violating the ordinance is not conferred by the enabling act, and is without legal effect and is void."

The courts have been unalterably opposed to piecemeal zoning and have consistently advocated zoning acts containing a comprehensive plan for the development of a community. Such a view was aptly stated in *Chapman* v. *Troy*, 241 Ala. 637, as follows:

"A single ordinance laying off a small portion of the city as a residence district, taking no account of other areas equally residential in character and so far as appears without any comprehensive plan with a view to the general welfare of the inhabitants of the city as a whole, is not permisaible. Piecemeal ordinances are not favored."

In order to be effective, zoning must, of necessity, be in accordance with a comprehensive plan, so as to insure proper development and use of a given community.

traveling exhibition brings design to the public

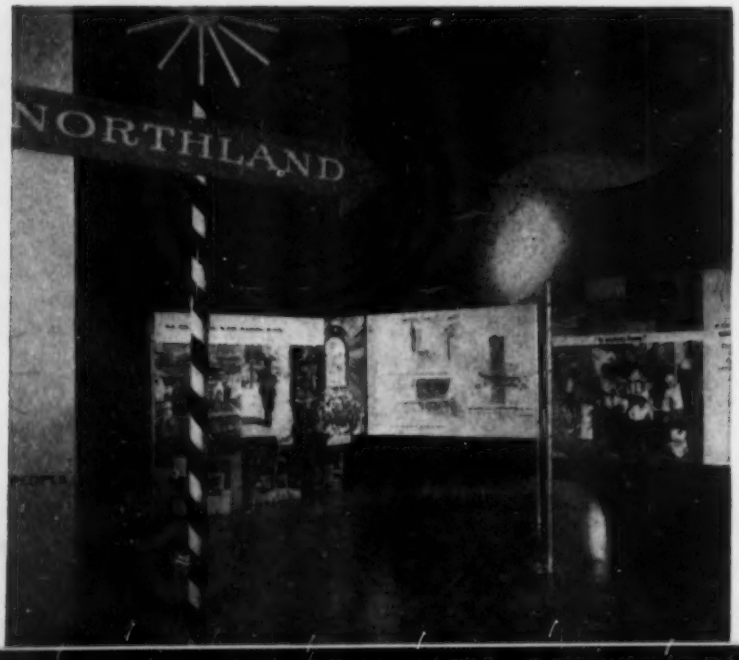
Shopping Centers of Tomorrow is the title of an architectural exhibit prepared by Victor Gruen Associates and circulated by the American Federation of Arts. Through the early months of this year it has been traveling and attracting large crowds—unusual crowds for museums in New Mexico, Kansas, Kentucky, and in Detroit, Michigan; Minneapolis, Minnesota; and so on. The Gruen partners (Victor Gruen, R. L. Baumfeld, Karl O. Van Leuven, Jr., and Edgardo Contini) are well pleased with the results of much work (and expense) for the firm, because the public relations and public education result have been all they could ask for. It goes without saying that an exhibition of this caliber does good for all of architecture—not only for its designers and its sponsors.

"An exhibition, to be successful," says Burton Cummings, Director of the AFA, "must, like a work of art, spring from an idea which is rooted in human experience and from there be brought to its fullest point of development with the means of communication available. With this exhibition, the more we study it the more we understand the validity of the idea and appreciate how beautifully it has been exploited. We are able to see with great clarity that something must be done about our expanding economy, population and technology, and the concurrent mounting congestion in the American City."

P/A is particularly pleased to see how handsomely the "idea has been exploited," because much of the material was first gathered together for the June 1952 special issue of this magazine, on Shopping Centers, for which Victor Gruen and his associates and Larry Smith, economic consultant, and his staff, were guest editors. That issue has become the standard reference on the subject, and this exhibit bids fair to be the outstanding *public* documentation of the same subject matter. Wherever the exhibit has been shown, local publicity has been tremendous. The Gruen files bulge with clippings from the Minneapolis *Tribune*, the Louisville *Courier-Journal*, the Detroit *News*, the Wichita *Beacon*, and so on; and with notices of TV and radio shows based on the exhibition.

Architects should be interested in the enterprise not only as a public relations activity of unusual proportions, but also because of the exhibit technique which was developed for the panels. Designed to fit in a space of approximately 2400 square feet, the show is on a series of demountable panels, with special, simple connectors and floor plates *(shown in detail acrosspage)*. A special triangular section marks the "Introduction" or entrance to the exhibit. From here the viewer is led logically through a sort of continuing story, divided into sections based on the history of shopping centers, traffic, parking, safety, environment, weather, and shopping atmosphere, to a central group of panels on "the design process." Final sections of the exhibit show four large projects from the Gruen office, demonstrating in actuality the points that have been made.

Design, editing, layout, and construction of a truly professional exhibit of this sort require specialized knowledge, unusual talents—and a large budget. Not too many private architectural firms could do the same thing. It may, however, mark a standard of exhibition quality which some others might aim toward, and which AIA Chapters, and even national groups and societies might emulate.

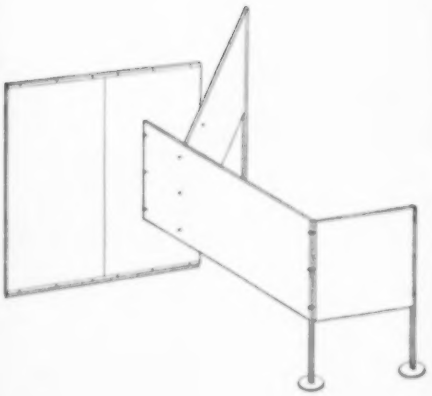


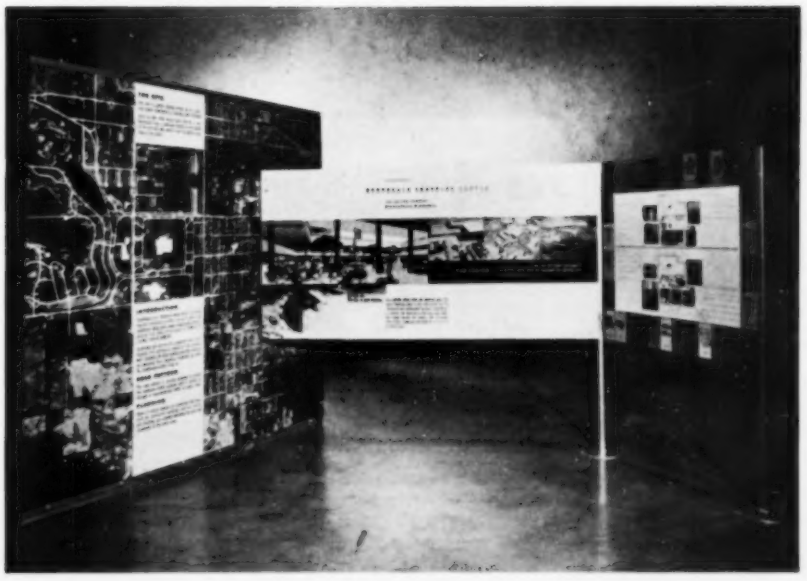
EXHIBITION DESIGN STAFF
OF
VICTOR GRUEN ASSOCIATES

William Carmen
Project Director
Carlos Diniz
Dominic Wlodarczyk
Kipp Stewart
Lorenzo Tedesco
Robert Dickinson
Frank Goldberg

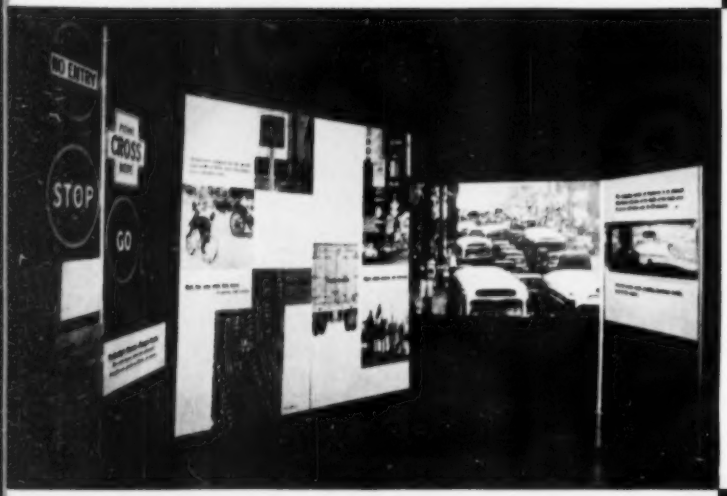
GRAPHIC CONSULTANTS
MADDEN/SHIPMAN
Udell S. Madden
Art Shipman

PHOTOGRAPHERS
Todd Walker
Harry H. Baskerville, Jr.





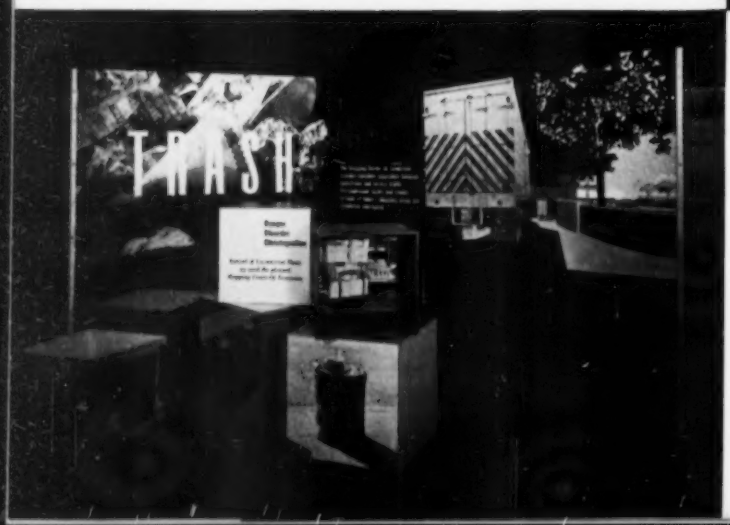
A series of standards with floor plates, and a system of panel connectors make erection of the exhibit simple. A floor plan, keyed to the panels, indicates ideal layout of the exhibition, which can vary depending on available floor space, so long as sequence is followed. A somewhat typical panel grouping is shown on this page—details above, and the finished assembly at the right.



HISTORY. *From the time bartering was done under a tree the market has been a meeting place . . . but these historic market places . . . had* human scale.

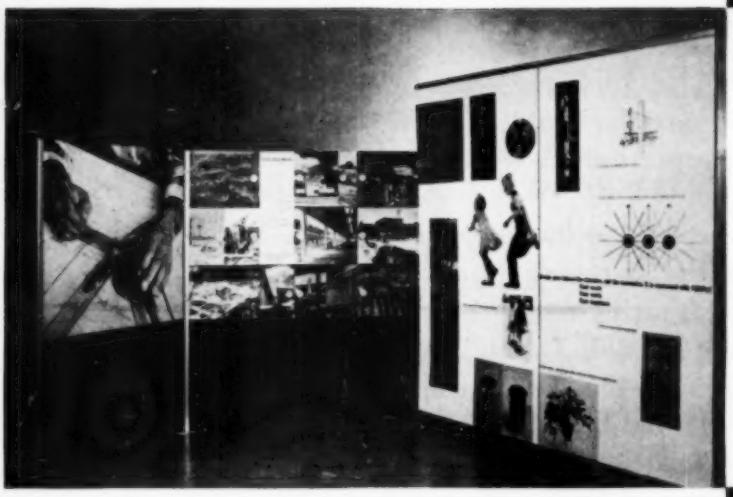
TRAFFIC. *The crisis began when the automobile brought new speeds to fill the city streets . . . shopping center traffic is not channeled through quiet, residential streets.*

SAFETY. *The pedestrian world has dwindled to a ribbon of pavement on the banks of the traffic stream. . . . The shoppers cross at their peril. In highway strip developments, parking cars and road-crossing shoppers mix. . . . The shopping center of tomorrow separates vehicular and pedestrian traffic. It provides open spaces where people can shop in safety, where it is fun to promenade, relax, and window shop.*



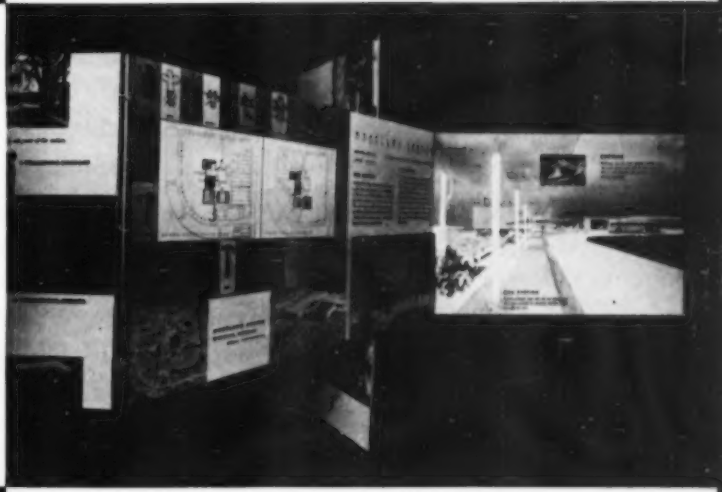
ENVIRONMENT. *Danger, disorder, disintegration are appalling features of our commercial slums. . . . Buffer areas should be created to protect residential areas from noise and fumes. . . . A shopping center which fails to consider its relationship to residential areas will soon be surrounded by blighted and slum neighborhoods and will find itself with a greatly reduced business potential.*

Captions on these pages are from the exhibit.



SHOPPING ATMOSPHERE. *Must shopping be a nerve-wracking experience, full of noise, disorder and ugliness? . . . In the shopping center of tomorrow, shopping is fun . . . there is a pleasant atmosphere in which to shop and meet with friends. . . . The shopping center of tomorrow will present a sound mixture of large and small tenants to offer variety, interest, and color.*

DESIGN PROCESS. *The shopping center architect must combine skills ranging from traffic engineer to city planning to chain store leasing expert. As a team captain, the architect co-ordinates the work of specialists in a dozen fields . . . The beginning of the planning process is the economic analysis . . . The final plan is developed through study of various possibilities in relation to the site.*



PROJECTS. *Woodlawn Center, Wichita, Kansas: The stores of the center are grouped around a landscaped court. Lower level stores face directly into this court and upper level stores face the shopping balcony which overlooks the court. Covered arcades lead from the parking areas. . . . A ramp and stairs at strategic points interconnect the two levels of stores and parking.*

Improved Health Standards

Two separate, but closely related, trends in modern health-care practice have given rise to new architectural needs and opportunities—even including entirely new building types.

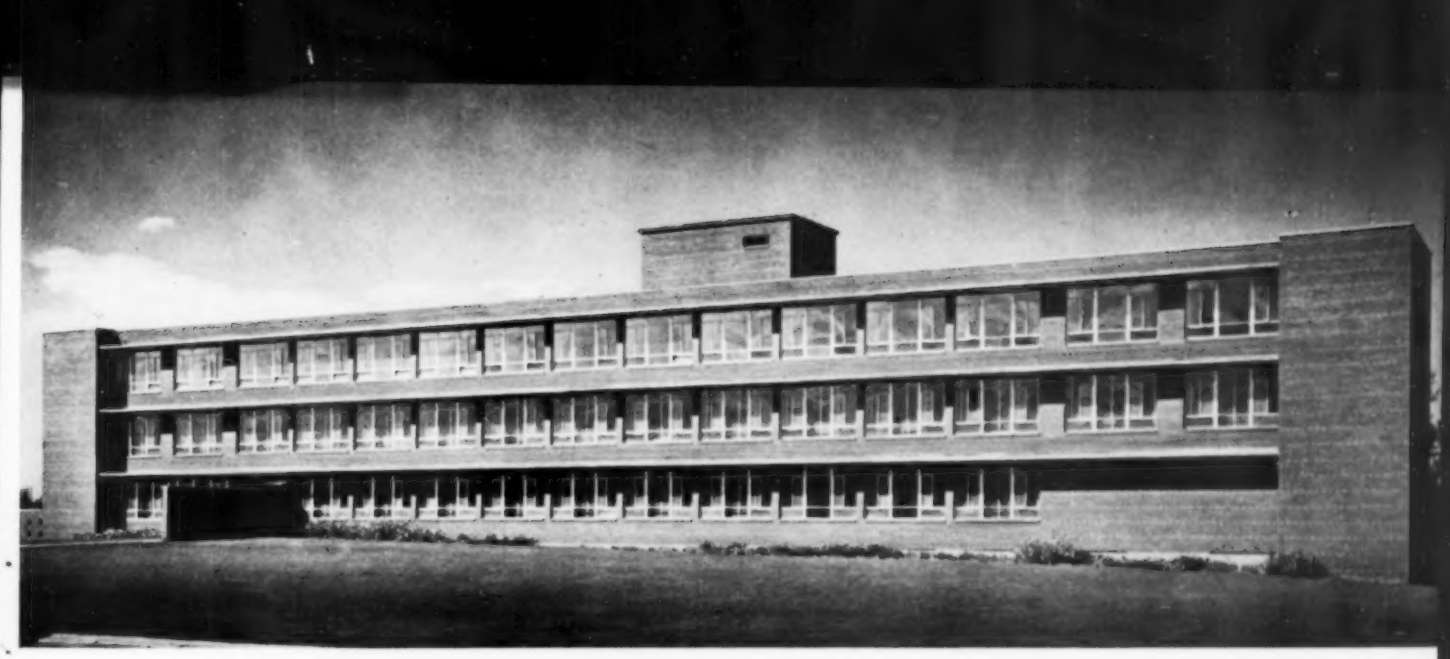
1. Early ambulation and early discharge from the hospital are subjects that have been much discussed among hospital people, but only now are being recognized in new hospital plans. With the extremely costly equipment that a modern hospital requires, everything possible is done in treatment to shorten the patient's stay; thus the hospital is enabled to serve a greater number of patients without the expense of additional beds.

According to Dr. Andrew J. Signorelli, Medical Director of Faith Hospital in St. Louis (page 82), "the combining of modern hospital efficiency with contemporary treatment methods has reduced the average length of stay in hospitals by more than one half." In planning, design elements to speed the patients' recovery range from the obvious, such as the use of pleasing and restful color, to wholly new plan concepts, such as inclusion of an entire separate floor for convalescent patients so that they are physically removed from the inevitable tension surrounding immediate postoperative or acutely ill cases.

2. Clinical and outpatient care to control disease before it becomes acute or chronic—before the patient requires a hospital bed—in a great many cases avoids hospitalization altogether and reserves valuable hospital space for those who really need it.

Insurance and prepayment plans (plus public education) have increased the use of outpatient facilities in recent years. As a result, some wholly new building types and refinements of time-honored ones have become important architectural problems. The HIP Clinic in this issue (page 115) is an outstanding example of the new independent "clinic"; more familiar group practice buildings and specialized doctors' office buildings are increasing in number; outpatient departments in the hospital or as part of a medical center are receiving new study.

The buildings in this issue were selected to show the impact of these contemporary trends. They indicate clearly, we feel, that reliance on past (even recently past) accomplishments will no longer suffice; new and improved health standards require newly studied planning standards.



osteopathic hospital

location	Denver, Colorado
architects	Fisher & Fisher
structural engineer	Milo S. Ketchum
mechanical engineers	Marshall & Johnson
general contractors	Mead & Mount and Frank J. Buirgy Construction

The economic resultant of several components—design, structure, maintenance, and operation—spells the success or failure of any hospital. To assume that an architect has done a good job simply because he has turned out a handsome design, chosen an economical structural system, used materials that require little maintenance, or worked out an efficient floor plan is not an entirely valid assumption. None of these alone makes a good hospital; this comes only from a judicious integration of all the above features, plus administration which makes full use of the physical facilities.

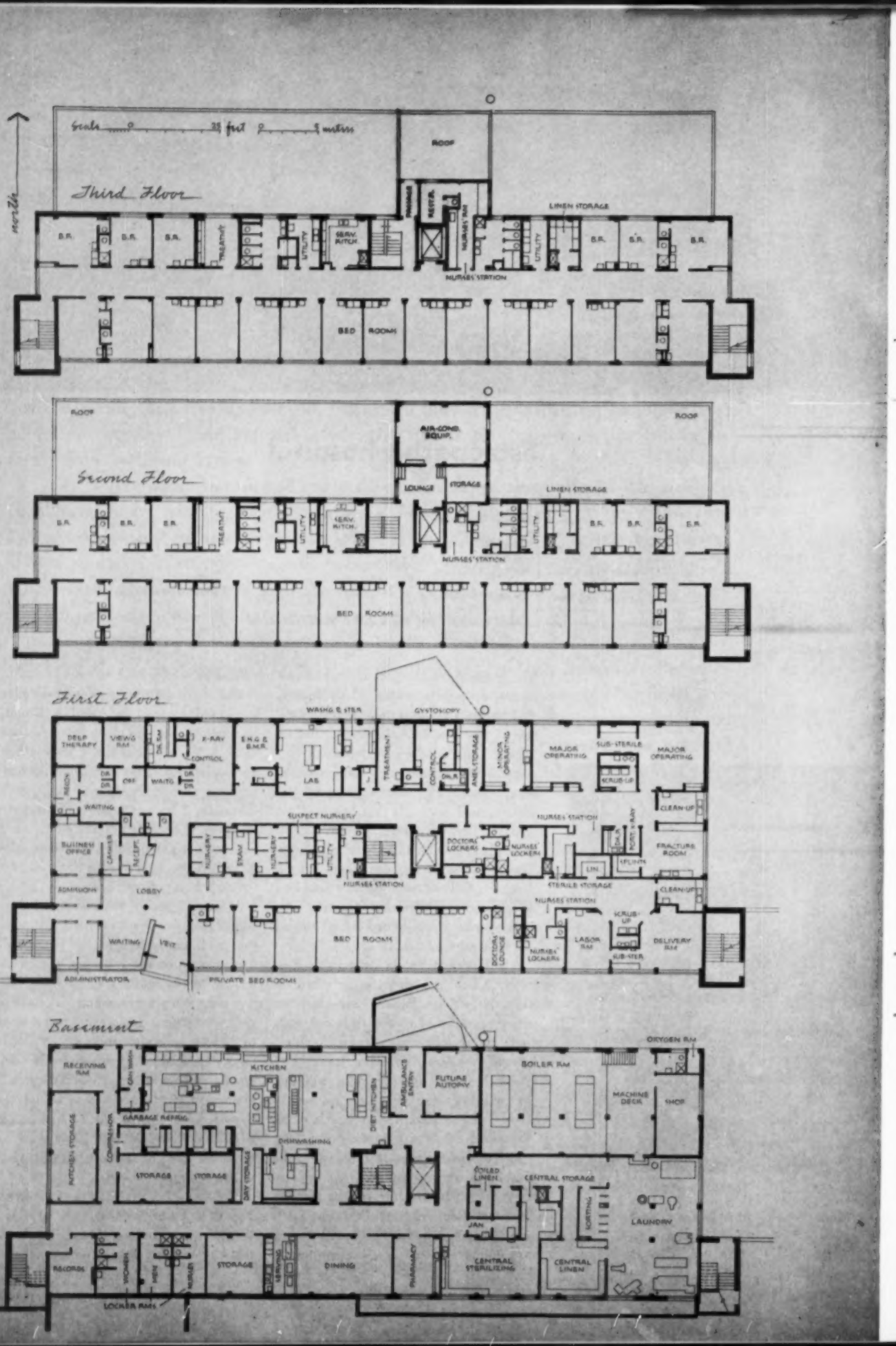
The Rocky Mountain Osteopathic Hospital, in Denver, shows just such integration. Here the architects have obviously designed well and chosen their materials well, and they have also used a structural system—reinforced-concrete frame and slabs—that, for this particular building, has proved quite economical. As for efficiency of operation, the architects claim that is the result of good administration; while the administration claims that the architects are responsible. Whoever is responsible, it is certainly evident that the architect-client relationship was and still is a happy one, which itself can be taken as an indication of how extraordinarily well the architects have served the client.

The entire structure was erected under the initial contract by Mead & Mount, Contractors, but the third floor was left unfinished—to be completed when funds became available. As a result of the hospital's economic design and its smooth operation, it became feasible to complete the third floor only a year later (much earlier than anticipated), increasing the 50 beds to 88. This was the work done by Frank J. Buirgy Construction.

A future laundry was planned, but as commercial service has been adequate that addition is indefinitely postponed. The nursery, on the first floor, can be expanded to the south.

It is certainly worth noting that, in Denver, where most buildings are oriented to the west for a view of the Rocky Mountains, this hospital is more sensibly oriented to the north and south. Sick people are not as often interested in scenery as in cool, softly lighted rooms. And unlike a resort hotel, this hospital is used by residents who are familiar with the view of the mountains.

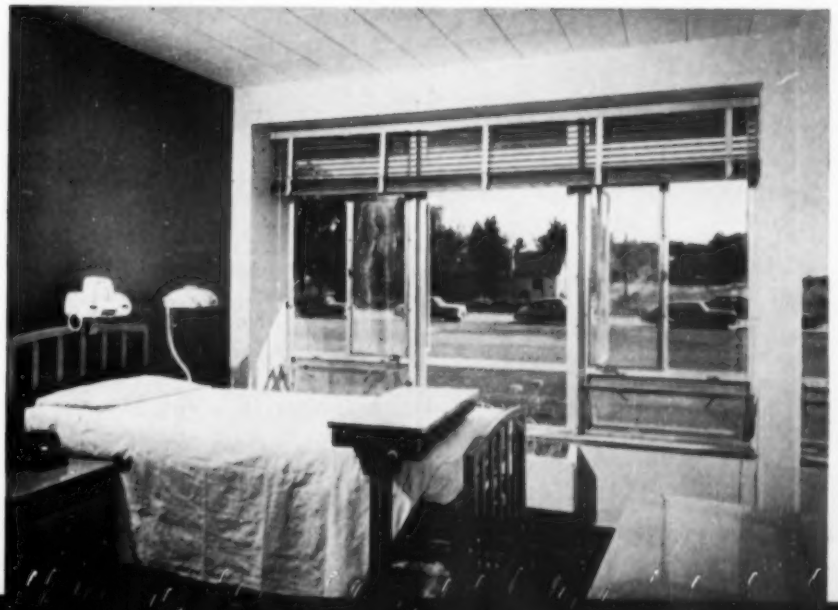
The strong horizontal lines of the structure accent the flatness of the site, but they also serve to dramatize the mountains beyond, for those passing by.


Scale 0 25 feet 2 5 metres
north
Third Floor
ROOF
LINEN STORAGE
B.R.
TREATMT
UTILITY
SERV. KITCH.
NURSES' STATION
BED ROOMS
Second Floor
AIR-COND. EQUIP.
LOUNGE
STORAGE
First Floor
WASHG. & STER.
CYSTOSCOPY
DEEP THERAPY
VIEWG. RM.
X-RAY
CONTROL
E.K.G. & B.M.R.
LAB.
MINOR OPERATING
MAJOR OPERATING
SUB-STERILE
SCRUB-UP
CLEAN-UP
WAITING
BUSINESS OFFICE
RECEPT.
SUSPECT NURSERY
NURSERY
DOCTORS' LOCKERS
NURSES' LOCKERS
FRACTURE ROOM
STERILE STORAGE
ADMISSION
LOBBY
LABOR RM.
DELIVERY RM.
DOCTORS' LOUNGE
ADMINISTRATOR
PRIVATE BED ROOMS
Basement
OXYGEN RM.
RECEIVING RM.
KITCHEN
GARBAGE HEATING
DIET KITCHEN
AMBULANCE ENTRY
FUTURE AUTOPSY
BOILER RM.
MACHINE DECK
SHOP
KITCHEN STORAGE
COMPRESSOR
STORAGE
DISHWASHING
DRY STORAGE
SOILED LINEN
CENTRAL STORAGE
JAN.
SORTING
LAUNDRY
RECORDS
WOMEN
MEN
NURSES
SERVING
DINING
PHARMACY
CENTRAL STERILIZING
CENTRAL LINEN
LOCKER RMS.

osteopathic hospital

Twin operating rooms (right) *on main floor are separated by scrub-up room and sub-sterilizer space, which opens directly to them without doors. For economy, an anesthesia room was omitted in favor of direct anesthesia at the operating table, hence pipes and tubing on near wall. Floor is terrazzo; walls and ceiling plaster.*

As neat as the operating room, the administration area enjoys warm textures of natural brick and wood, acoustical plaster, and matchstick draperies. Filing cases and divider (right) *separate cashier and reception desk from business office.*



Small, simple room (right) *for patient has abundant natural ventilation; light can be regulated with blinds. Materials and furnishings were chosen for high quality and low-maintenance requirements.*

Photos: Reynolds Photography

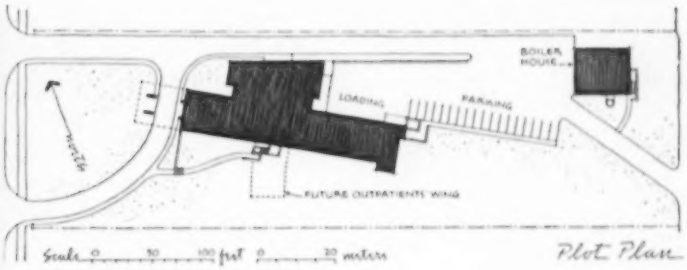
private general hospital

location	St. Louis, Missouri
associated architects	Joseph D. Murphy and Angelo G. Corrubia
medical director	Dr. Andrew J. Signorelli
structural engineer	Neal J. Campbell
mechanical engineer	Harry F. Wilson
general contractor	Charles Cristina Construction Company

A private, nonprofit, nonsectarian hospital, owned and operated by the doctors of the staff, Faith Hospital as it stands today is but four floors of an eventual six-story building. Also to be added at a later date are increased outpatient facilities in a wing extending to the south from the building on the ground- and first-floor levels. (*Plan acrosspage.*)

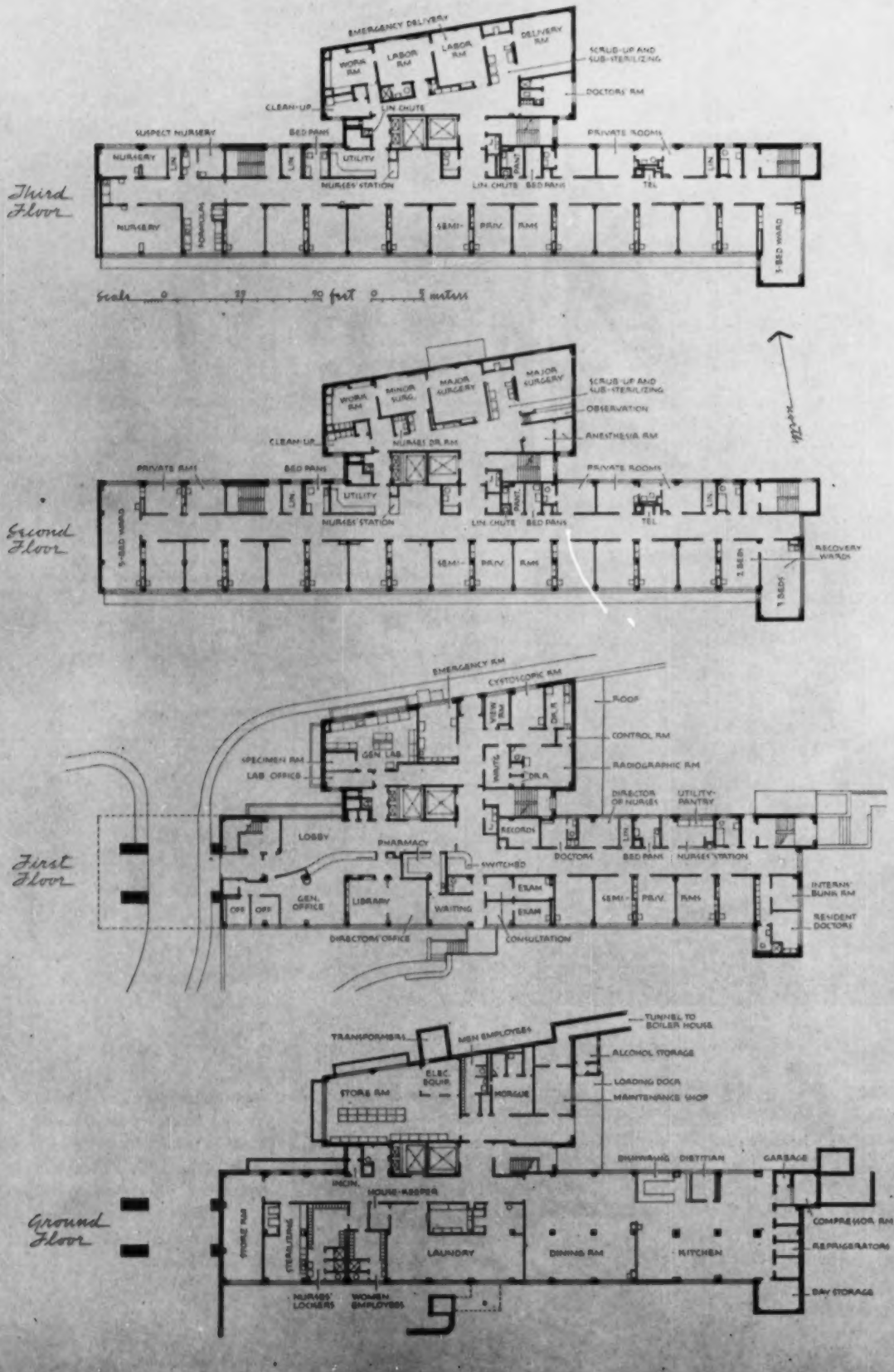
Design and equipment of the hospital were developed by the architects around the advanced health-care theories of Dr. Andrew Signorelli, Director of the Faith Hospital Association. "All functions of a hospital plan," the Doctor stated in the initial program, "should be so related

At present, the top floor is complete as a shell, only; the three floors finished are used intensively and serve from 45 to 55 patients. When two more floors are added, the hospital will have 200 beds and 40 bassinets. Ambulance entrance (right of photo at right) *is at the rear and adjoins the emergency suite on the first-floor level; the driveway continues down and around to the ground-floor service-truck dock.*
Photos: Julius Shulman



that each individual patient receives maximum care, service, comfort, and tranquillity with minimum friction, duplication, and expense." Heart of the idea was to plan in such a way as to promote earliest possible ambulation and discharge from the hospital consonant with proper health care. Thus, the patient gains the welcome result of keeping his or her costly hospital expenses to a minimum, and the hospital is able to extend its specialized services to an increased number of patients—inevitably leading to a less wasteful, more economical operation. At present, this is handled by moving postoperative cases to special recovery rooms at the east end of the nursing floors, where there is a special nurse in attendance. As soon as feasible, these patients are moved into the semi-private or private rooms. When additional floors are constructed, the plan is to use the top or sixth floor exclusively for convalescents.

private general hospital



Constructed on a narrow, rectangular, two-acre site, with a 165-ft frontage to the west along a major boulevard, the building consists of a long, nursing-unit wing, with most patients' rooms facing south and sun-protected by projecting, structural eyebrows, and an irregular-shaped wing to the rear in which are located operating rooms, labor and delivery rooms, and laboratories. The main entrance at the west end leads to the public lobby (below).

The ground floor houses storage and food-preparation facilities, a laundry, employes' locker rooms, sterilizing room, morgue, and maintenance space.

On the first floor, in addition to the main entrance lobby and administrative offices, there is the outpatient department, X-ray, general laboratory, and emergency suite, with ambulance entrance at the rear.

The second and third floors are typical hospital floors, including patients' rooms, services, and operating rooms. The unfinished third floor is currently planned as a maternity department.

The future fourth and fifth floors are tentatively schemed as facilities for general hospital cases and convalescents, respectively.

Throughout the design, everything possible was done to favor the well-being of the individual patient and to shorten the recovery period. Appropriate use of color to create a cheery, warm atmosphere; large windows to admit a greater amount of sunlight into patients' rooms; soundproofing to decrease annoyance from hospital traffic; an efficient call system. All these, plus provision of special areas for patients needing intensive care, were consciously designed to promote speedy convalescence.

The entire north wing of the building is air conditioned. The operating-room photograph (top) *was taken through a window in an observation corridor.*

The scrub-up area (center) *occurs between the two major operating rooms.*

On the south wall of the ground floor is the sterilizing room (right).

The semiprivate rooms (top) *are all on the south wall of the hospital. Wall-to-wall areas of insulated glass are protected on the outside by sun shades that screen the sun's rays in summer and allow maximum penetration in winter. Each bed has two-way communication with the nurse's station, in addition to the standard call system.*

At the east end of the nursing unit are two recovery rooms (above) *where intensive nursing care is given to postoperative cases.*

Materials & Methods

construction

Foundation, frame, floors, walls, roof: foundation: precast reinforced-concrete piles, pile caps—Smith & Brennan Pile Company; reinforced-concrete frame, below-grade walls—Missouri Portland Cement Company, Missouri Rolling Mill Corporation; above-grade walls: brick—Alton Brick Company, lightweight-concrete block; floors and roof: reinforced-concrete pan and flat slab: metal pans—Ceco Steel Products Corporation. **Wall surfacing:** exterior: brick—Alton Brick Company; interior: hollow tile with plaster, ceramic tile—Cambridge Tile Manufacturing Company, structural glazed tile—United States Gypsum Company; rest rooms: ceramic glazed structural tile—Arketex Ceramic Corporation, metal lath and plaster—Inland Steel Products Company. **Floor surfacing:** ceramic tile—Cambridge Tile Manufacturing Company, asphalt tile—Kentile, Inc., cement—Universal Atlas Cement Company, terrazzo and cement—Hubbellite Corporation, terrazzo. **Ceiling surfacing:** plaster on metal lath—H. H. Robertson Company, exposed concrete, acoustical tile. **Roof surfacing:** 20-year bonded, tar and gravel—The Ruberoid Company. **Waterproofing and dampproofing:** membrane waterproofing on basement and boiler-room floor slabs, floors of sterilizer rooms, exterior walls receiving plaster—The Ruberoid Company. **Insulation:** acoustical: fissured mineral-wool tile cemented to plastered surface—Armstrong Cork Company; thermal: glass-fiber insulation—Owens-Corning Fiberglas Corporation, cane-fiber insulation—Celotex Corporation, corkboard—Mundet Cork Corporation. **Roof drainage:** cast-iron downspouts—Josam Manufacturing Company. **Partitions:** interior metal—E. F. Hauserman Company, metal toilet—Sanymetal Products Company, Inc. **Windows:** aluminum and steel architectural projected sash—A.B.C. Steel Equipment Company, Inc. and Detroit Steel Products Company; plate and insulating glass—Libbey-Owens-Ford Glass Company; aluminum entrances—The Kawneer Company. **Doors:** hollow-metal interior doors—Niedringhaus Metal Products Company, hollow-metal elevator doors—Otis Elevator Company, hollow-aluminum entrance doors—The Kawneer Company. **Hardware:** master-keyed cylindrical lock sets—The Schlage Lock Company, door closers—The Oscar C. Rixson Company, ball-bearing hinges—The Stanley Works. **Paint:** exterior enamel and interior stippled—Pratt & Lambert, Inc.

equipment

Kitchen and laundry: stainless-steel kitchen equipment with steam, gas, and electric operation—Southern Equipment Company and Magic Chef Inc.; steam and electric laundry units—The American Laundry Machine Company. **Specialized equipment:** lead-protected radiographic suite—Westinghouse Electric Corporation; sterilizers—Wilmot Castle Company; metal cases, cabinets, patients' room furniture—A. S. Aloe Company. **Elevators:** 200 ft per min elevators with collective automatic control—Otis Elevator Company; automatic dumbwaiters. **Lighting fixtures:** office: incandescent—Art Metal Company; lobby: silver bowl indirect—Kurt Versen Company; patients' rooms: indirect and direct incandescent—Hub Electric Company; operating room lights—Wilmot Castle Company. **Electrical distribution:** service entrance switch with three-phase emergency circuit—Federal Electric Products Company; dead-front safety-type circuit panelboards; breakers and fused-type multibreakers. **Plumbing and sanitation:** siphon-jet flush-valve water closets—Kohler Company; solid plastic toilet seats—Olsonite Plastics Division of Swedish Crucible Steel Company; vacuum-breaker flush valves—Speakman Company; chrome lug-type accessories—Hall-Mack Company; gas-fired, double-flue incinerator—Joseph Goder Inc.; drinking fountains—Halsey W. Taylor Company. **Heating:** three 150 hp steam generators—Cleaver-Brooks Company; wall-hung convectors—Trane Company; pneumatic controls—Johnson Service Company; single-inlet ventilators—Buffalo Forge Company. **Air conditioning:** Freon refrigerant—E. I. du Pont de Nemours & Co. (Inc.); 375,000 Btu per hr compressor—Brunner Manufacturing Company; electrostatic air cleaner; pneumatic controls—Johnson Service Company.

air conditioning: Savannah Memorial Hospital

by K. R. Goddard*

In the following discussion of the general features of a 100-percent air-conditioned hospital in Savannah, Georgia, the author describes some new applications and combinations of mechanical equipment designed to reduce the operational expenses of that institution.

There has been an important increase in the construction of hospital facilities in the Southern states. Because of climatic conditions in this area of the country, it was natural that a modern concept of full air-conditioned space and other mechanical improvements be incorporated in their planning. Georgia now has under construction three hospitals in the category of 300 beds or larger–all three have the same hospital consultant, Dr. Herman Smith of Chicago.

The first one to be constructed, located in Augusta, Georgia, embodies the use of the Carrier conduit system of air conditioning, using high-pressure delivery of the supply air to individual units in each room. In this system, the fresh air (about 20 percent of the total required volume) is filtered, washed, and tempered in centrally located apparatus and delivered at high velocity to the individual units. Each room unit is composed of a tempering coil and air-jet diffuser which induces the air from the room over the tempering coil to combine with the supply air and then blow into the room. Either chilled or warm water is circulated in the tempering coil, depending upon the season. Water is chilled at this installation by steam-turbine-driven centrifugal compressors, and the warm water is obtained by shell and tube converters using steam for heating.

The second large hospital, erected at Macon, Georgia, employs the Trane Uniflow system of air conditioning. In this system, each conditioned space has an individual conditioning unit complete with tempering coil, fans, and fresh-air inlet from outside. The chilled and warm water is obtained in the same method as above.

The third large hospital now under construction in Georgia is at Savannah and employs still a third type of air conditioning, the principal features of which are presented in this article. The Memorial Hospital has in excess of 134,500 sq ft of air-conditioned space. A policy was established that all of the nursing areas, the operating suites, delivery suites, and nurseries were to be supplied with 100-percent fresh air.

Savannah is a coastal city and the normal summer humidity is quite high. On any 100-percent fresh-air system, the refrigeration required is, therefore, proportional to the air required to overcome the building heat gain. Consequently, the lower the building gains and losses, the less air required to overcome the load. Studies were therefore made to determine those construction features which would be economically justified in maintaining the building heating or cooling load at a minimum. The walls of the building are of cavity-wall construction, the two in. cavity being filled with glass-fiber insulation. All of the windows having eastern, western, or southern exposures are to be screened with Ingersoll "Koolshades." These shades eliminate the necessity of venetian blinds and permit maximum visibility while still reflecting up to 70 percent of the solar gain on the exposed glass areas. This feature was found to be cheaper than using insulating glass or double glazing. It also gives the interior decorators an opportunity to cover windows with decorative draperies instead of blinds. The saving in refrigeration tonnage realized by installing the insulation in the walls amounted to 72 tons, and the savings gained by shading the windows with "Koolshade" amounted to 74 tons or a total of 146 tons of refrigeration. An equally proportionate saving is made in heating during the three winter months. Because the building is essentially cruciform in plan, little or no reduction in solar-heat gain could be made by orientation.

After careful consideration of several methods and types of equipment for air conditioning, it was decided to use a high-velocity, central-plant type of system. The high-velocity method of air distribution lends itself nicely to larger temperature differentials between the conditioned supply air and the air in the conditioned space. Of course, the greater the differential that can be successfully maintained between the supply air and the desired temperature of the conditioned space, the less air required to overcome the load. The cooling load for the building, without insulation and shading of glass areas with venetian blinds, was determined as 872 refrigeration tons of air conditioning, including the fresh-air load. Based on 100-percent fresh-air in the nursing areas, operating suites, delivery suites, and nurseries and 25-percent fresh-air in the administration areas, 135,670 cfm of fresh-air would be required, using a conventional low-velocity distribution system. After adding the insulation to the exterior walls, shading glass areas with "Koolshades," and increasing the temperature differential between the supply air and the air in the conditioned spaces 50 percent (from 20 to 30 degrees), the fresh-air requirements were reduced to only 66,175 cfm, an additional refrigeration saving of 295 tons.

Another important advantage of the high-velocity method is its ability to deliver variable quantities of air into some

*Associate, Thomas & Hutton & Associates, Architects-Engineers, Savannah, Ga. Architects for the Savannah Memorial Hospital were Abreu & Robeson, Atlanta, Ga.

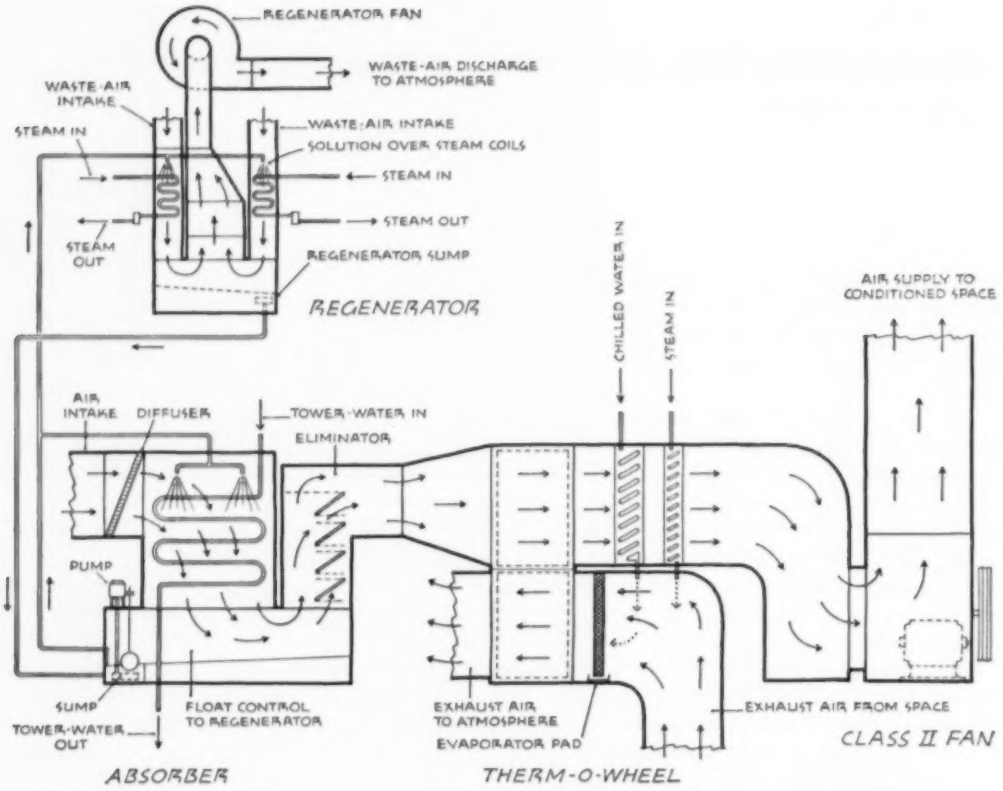


Figure 1—schematic diagram of air conditioners.

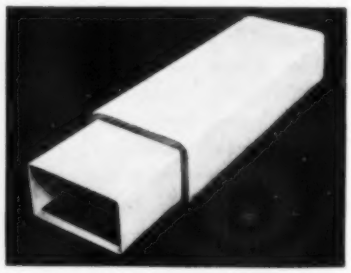


Figure 2—asbestos-cement duct with inner shell partially withdrawn (right).

Figure 4—assembly of 90 degree turn with directing vanes (below).

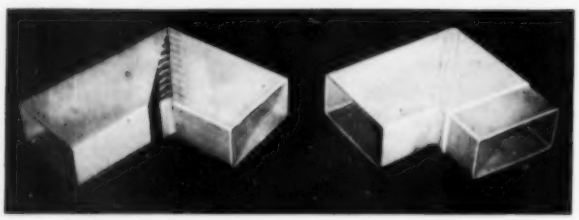
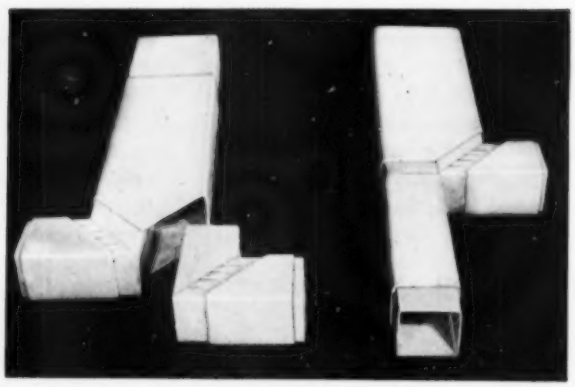


Figure 3—fabrication of 90 degree turn with asbestos-cement directing vanes (above).



Velocity, Feet per Minute	Static Pressure Drop, Inches of Water per 100 Ft			Coefficient of Friction f		Value of C	
	Asbestos	Metal		Asbestos	Metal	Asbestos	Metal
	Observed	Observed	A.S.H.V.E.				
11 in. x 13 in. Rectangular Ducts							
1000	0.098	0.098	0.165	0.00391	0.00391	84.5	84.5
2000	0.310	0.310	0.600	0.00308	0.00308	97.0	97.0
3000	0.645	0.670	1.270	0.00286	0.00297	98.3	94.8
8 in. Round Ducts							
1000	0.200	0.235	0.280	0.00543	0.00538	70.0	59.5
2000	0.725	0.825	1.020	0.00492	0.00560	70.0	61.7
3000	1.545	1.735	2.150	0.00466	0.00522	70.0	62.5
5½ in. x 8½ in. Rectangular Ducts							
1000	0.200	0.195	0.340	0.00420	0.00443	85.0	87.2
2000	0.665	0.595	1.270	0.00377	0.00339	92.5	103.5
3000	1.395	1.300	2.600	0.00353	0.00328	93.5	100.0
2½ in. x 11 in. Rectangular Ducts							
1000	0.341	0.267	0.600	0.00474	0.00371	93.2	118.5
2000	1.175	1.032	2.500	0.00410	0.00360	89.8	102.0

Table I—results of friction tests on asbestos and metal ducts.
From article by R. H. Heilman in February 1938 *Heating, Piping & Air Conditioning.*

spaces without unbalancing the entire system. This permits individual variable control in each room by means of an inexpensive manual control—a versatility virtually impossible with conventional low-pressure distribution, without the use of a considerable amount of expensive controls.

In order to overcome the tremendous latent load imposed by an 80 F wet-bulb temperature for 66,175 cfm of fresh outside air, and at the same time maintain reasonably close control of the relative humidity throughout the conditioned spaces, five "Kathabar" dehumidifying spray towers are employed. These units provide the air-conditioning equipment with an apparatus dew point of 46 F and a reserve safety factor down to 40 grains of moisture per pound of air supplied. The penalty normally arising from the use of chemical dehumidification is overcome by transferring the entire dehumidifying load—equivalent to approximately 400 refrigeration tons—to the cooling tower and permitting the temperature of the air through the absorbers to rise 14 degrees above the 85 F tower water.

The dehumidified air is passed through a "Therm-o-wheel" which is used as a heat exchanger to recover the temperature of the cooled, exhaust air from the conditioned space and transfer it to the warm, dry, fresh, incoming air. The additional cooling required to lower the air to 48 F is accomplished by a chilled-water coil operating as a sensible cooler. The chilled water supply (42 F) is controlled by a modulating valve operated by a thermostat located in the return-air duct immediately ahead of the "Therm-o-wheel" exhaust inlet. No reheat is required with this system; however, a heating coil is supplied for winter operation and can be used for reheat should occasion require it (*Figure 1*).

The air distribution in the hospital is achieved through a supply system carrying high-velocity air at three in. maximum static pressure to all conditioned spaces. The ventilation system is of such size as to permit the system to return to exhaust a volume of air equal to the volume supplied. Air velocities in the exhaust system are conventional consistent with a low noise level. The duct used in the distribution system is Careyduct (asbestos cement) with premolded insulation on all the supply ducts. Four major factors that influenced the selection of this particular type of duct for use in this building are:

1. The asbestos-cement duct presents a smooth interior surface with excellent flow characteristics; the friction loss of this duct is slightly less than sheet metal duct at the higher velocities (*Table I*).

2. The sound-absorbing qualities inherent in the duct material itself aid in noise reduction and eliminate the necessity of any sound traps in the system other than the attenuation accomplished by the outlet valve boxes.

3. The ease of fabrication and assembly of this type of duct system insure a good air-tight job capable of withstanding approximately 10 in. of static pressure. In this particular installation, however, the maximum static pressure will not exceed 5 in. All joints of the duct cores are cemented and insulation is then cemented in place over the core—the joints of the latter being staggered to produce, in effect, two solid air-tight sleeves (*Figure 2*). All turns greater than 45 degrees and all branch take-offs employ prefabricated, airfoil, turning vanes (*Figures 3 and 4*). The permeability of the material itself is so low that losses due to seepage are negligible.

4. The cost of the Careyduct installed, based on our experience with other high-velocity jobs, offers a saving of over 15 percent of the over-all ductwork cost, as compared to insulated sheet metal constructed to withstand the same static test and to obtain an equivalent noise level.

An appreciable saving in building space and ductwork was accomplished by

using a plan which enabled air-conditioning and ventilation ducts and plumbing to be located in a common chase. (*Figure 5 indicates the detailed planning and co-ordination of air conditioning with plumbing that was necessary to obtain a maximum saving in construction cost.*) Each riser feeds from the ceiling of the top floor and serves two adjacent rooms on each floor level, for all floors above the first. Distribution of air for the first floor is accomplished over the suspended ceiling of that floor.

Air diffusion in this type of system is of paramount importance since the comfort of the occupants depends not only upon the temperature, but also to a large extent on the velocities of air circulating within the conditioned spaces. In order to accomplish proper diffusion from a high-velocity air-distribution system, three things must be accomplished:

1. Static pressure and velocities must be reduced and attendant noise absorbed.

2. Temperatures of supply air must be adjusted to those consistent with occupant comfort and at the same time overcome the building gain or loss.

3. Distribution of air must be accomplished (into all parts of the space) at velocities not objectionable to the occupants.

There are several types of diffusers available which accomplish these items satisfactorily. Two types only are being used in this installation: a ceiling-type diffuser and a sidewall adjustable-vane outlet. There are two approaches to the problem of introducing extremely cold supply air into a conditioned space. One approach aspirates room air into the high-pressure unit, blending it with the supply air before introducing the tempered mixture to the space. The other approach introduces the cold supply air directly into the space, depending on rapid mixing to secure temperature equalization and prevent drafts. Bids received on both types showed that the latter method of direct supply air dispersion was more compact and cost appreciably less. In order to prove the effectiveness of this method, the specifications provided that the manufacturer of the nonaspirating type (Connor Engineering Corporation, Danbury, Connecticut) prepare a mock-up of a typical patient's room. The engineer would then run complete tests to determine temperature equalization and velocity patterns. The results of the test proved that the nonaspirating type diffuser would be completely satisfactory. Aside from the difference in cost, the direct diffuser offers less of a maintenance problem in a hospital application. No dust or germs are collected on the diffuser plates or baffles since no air from the conditioned space is drawn over or into the diffuser. Ceiling types are completely adjustable from a straight down blast to a horizontal no-draft diffusion (*Figure 6*). The sidewall diffusers are a multivane-grill type with adjustments to throw the air in any direction, i.e., up, down, right, or left.

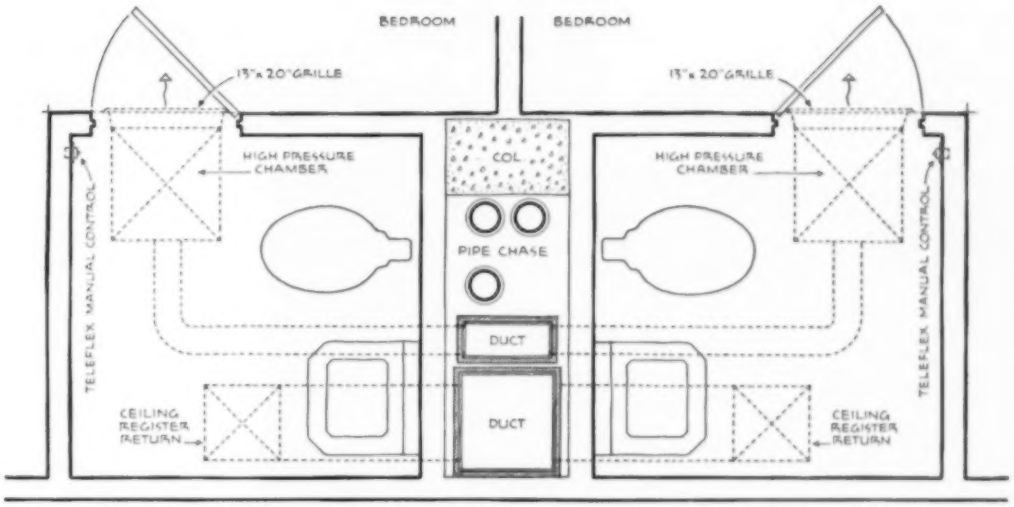
Both the ceiling and wall types are designed to provide an extra rapid entrainment of the air in the conditioned space with the supply air, thereby being tempered in the space itself, rather than within the diffuser. Complete adjustment of the volume of supply air is accomplished by the high-pressure air-reducing valve in the attenuator box. These valves are made of stainless steel with bronze fittings to prevent wear and corrosion. Temperature differences within the conditioned spaces are maintained within 1½ F maximum from floor to ceiling and from one side of the space to the other. Velocities of the air within the occupied conditioned space are held to under 50 fpm and, at the same time, air outlets are located to wash glass areas at a minimum velocity of 75 fpm. The noise level is maintained at a maximum of 37 db when the air valve is open to design volume of air flow. All of the patients' rooms and private offices are equipped with a manual volume control, wall mounted within the space, while public areas and general offices have recessed hex-head adjustment of air volume on each outlet.

The spaces are zoned to overcome solar changes and variations of outside temperature from one side of the building to the other. Interior spaces are zoned separately. Each zone is controlled by a centrally located thermostat, operating a modulating damper in the main duct feeding the zone. The entire space is maintained at a constant summer temperature of 78 F and a winter temperature of 75 F by thermocouples, located in the return-air discharge main, operating modulating valves on the air-tempering equipment. Humidity is maintained within one or two percent by "Humidistats" in the return-air stream controlling the apparatus dew point and gravity of the "Kathine" solution circulated in the air washers.

During the winter cycle, the "Kathabar" units serve only as air washers and for humidity control. The "Therm-o-wheels" again pretemper the air by transferring the temperature of warmed exhaust air to the fresh incoming air. As shown by independent tests, the efficiency of these thermal exchangers is 90 percent of the difference in temperature of the air at the inlet and the exhaust outlet, which represents a tremendous saving in both heating and cooling requirements. An additional feature in connection with "Therm-o-wheels" is the ability to use an evaporative pad to reduce the temperature of the exhaust air on the intake of the exhaust side of the wheel. This feature permits a gain of approximately 10 F in sensible temperature reductions by evaporative cooling during the cooling cycle. The combination of air-tempering equipment used here has reduced the chilled-water requirements from an original estimate of 872 refrigeration tons to 315 refrigeration tons. A steam-vacuum jet chiller will be installed by Ingersoll Rand, which has a normal capacity of 340 refrigeration tons of chilled water at 42 F.

Other considerable savings in operating expenses are anticipated due to the multiuse of steam generated. All of the steam generated is used for at least two purposes and most of it is used three times before being recovered as condensate. The power plant consists of two water-tube boilers generating steam at 250 psig and 500 degrees TT. The steam is first used in a turbine generator operating noncondensing at 250 psig and 100 psig back pressure.

This high back pressure affords a suf-



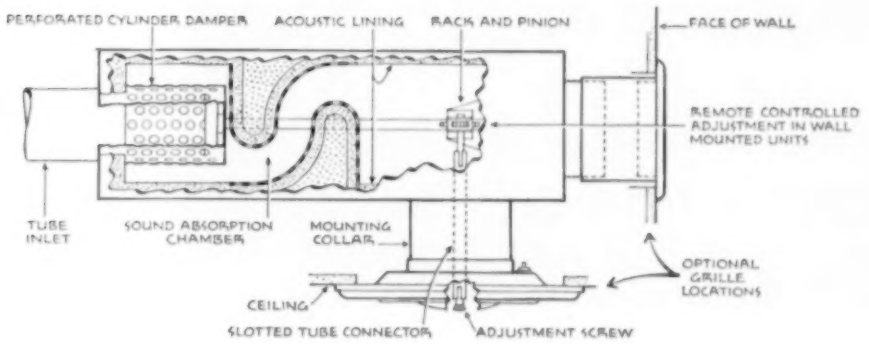


Figure 5—plan of typical chase and typical plan of two adjacent rooms (top).

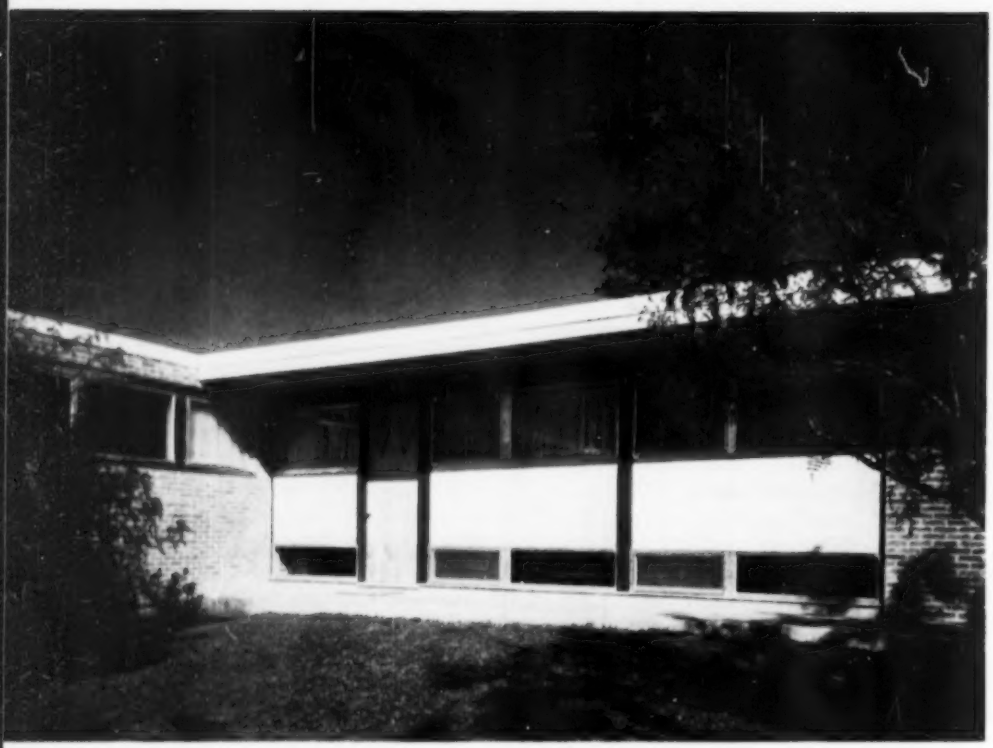
Figure 6—diagram of high-velocity attenuator box and ceiling diffuser (bottom).

ficiently high water rate on the turbine to provide all of the hospital steam requirements while generating from 60 to 70 percent of the hospital electrical requirements. After the steam leaves the turbine exhaust, the steam necessary for laundry and hospital sterilization is bled off the 100 lb pressure main. The balance of the steam at 100 psig is fed to the auxiliary turbines operating the power plant auxiliaries. The auxiliary turbines operate on a 30 psig back pressure and thereby supply exhaust-steam for water heating, kitchen, operation of the steam-jet chiller, etc. There are pressure reducing stations between each of the three steam mains (250 lb to 100 lb; 100 lb to 30 lb). During normal operations, the steam requirements are so balanced that less than four percent of the steam used must pass through the reducing valves.

The air-conditioning chiller is a four-booster steam-jet vacuum chiller with three boosters operating on 30 lb and one booster on 100 lb steam. The chiller condenser is so arranged that during the winter season it can provide condensing facilities for the entire plant or any portion of it as the need arises. During the summer months the chiller uses all of the excess 30 lb steam. The 3150 gpm cooling tower, built of ceramic tile to provide maximum life expectancy and minimum maintenance under conditions of continuous service, supplies cooling water for both the condenser and the "Kathabar" dehumidifying equipment previously mentioned.

The complete power plant, except for the generator, electrical switchgear, and water-heating tanks, is located outdoors at the rear of the service building, thereby saving a considerable amount of building structure.

specialized clinic



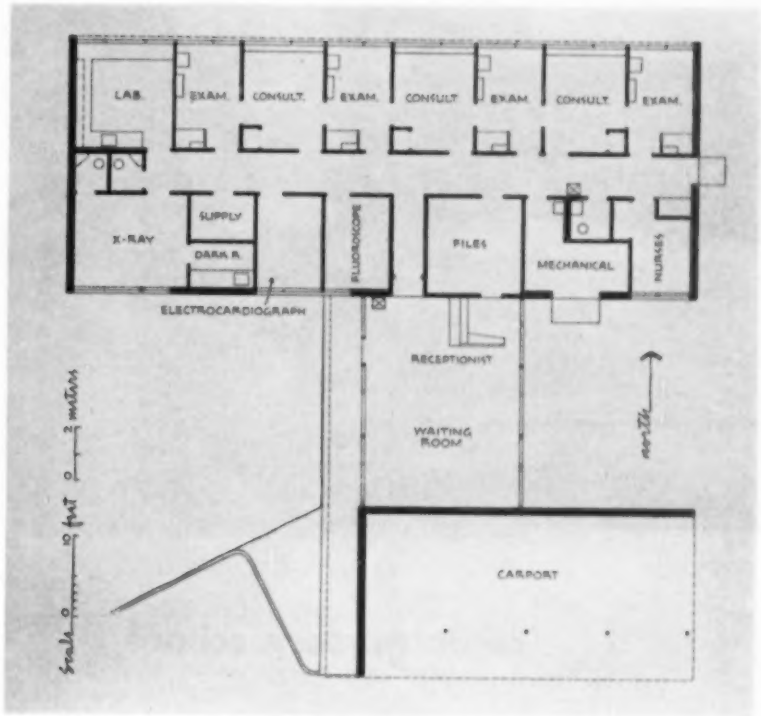
location	Austin, Texas
architects	Fehr & Granger
structural engineers	Wilson & Cottingham
mechanical engineer	Herman Blum
general contractor	R. J. Pekar

In designing this clinic for a family of doctors—the father and older son, doctors of internal medicine specializing in cardiology; the younger son, a surgeon—the architects consciously strove to introduce elements that would ease the worry of going to the doctor. On the west or entrance side, the wall is developed as part solid and part glass, the solid portion providing desirable privacy for waiting patients. In the windowed portions, some operable panels occur in both the top and bottom bands. On days when air conditioning is not required, a good breeze and cross ventilation can almost always be induced by opening these panels, along with their opposite numbers in the facing wall. The latter wall, entirely of glass within frames, overlooks a richly landscaped patio provided as "a distraction from one's sickness."

Built on a reinforced concrete foundation, the wood-frame structure has exterior walls of brick, glass, or asbestos board. The floor system is of precast concrete joists; surface flooring is rubber tile. The entire subfloor area of the building is used as return air plenum for the heating and air conditioning. Acoustical tile is used on ceilings throughout,

A large parking area and carport serve the clinic at its south end. The two photographs on this page illustrate the waiting room, with its window wall facing the restful patio. Not apparent in black-and-white photographs is the cheerful color—blonde furniture; upholstery in light pastel tones; and draperies striped in yellow, gray, white, and black.

Photos: Meisel—Dallas

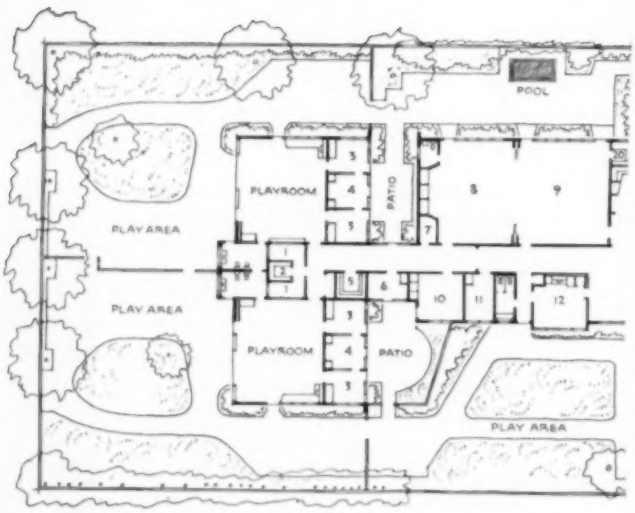


while four inches of glass-fiber material provides thermal insulation. Lighting combines both incandescent and fluorescent fixtures. Aluminum and projected sash are glazed either with plate or double-strength A glass.

The forthright plan scheme, with the various specialized rooms across the central corridor from consultation and examination rooms, has made it possible, so the architects tell us, for the doctors "to see more patients per day and at the same time to feel less fatigue at the end of the day" than they did in their former quarters.

clinic/nursery school

location	Los Angeles, California
architect	Walter L. Reichardt
consulting architect	H. Roy Kelley
structural engineers	Brandow & Johnson
mechanical engineers	E. L. E. Co.
landscape architect	Ruth Shellhorn
color consultant	Everett Sebring
general contractors	Steed Brothers

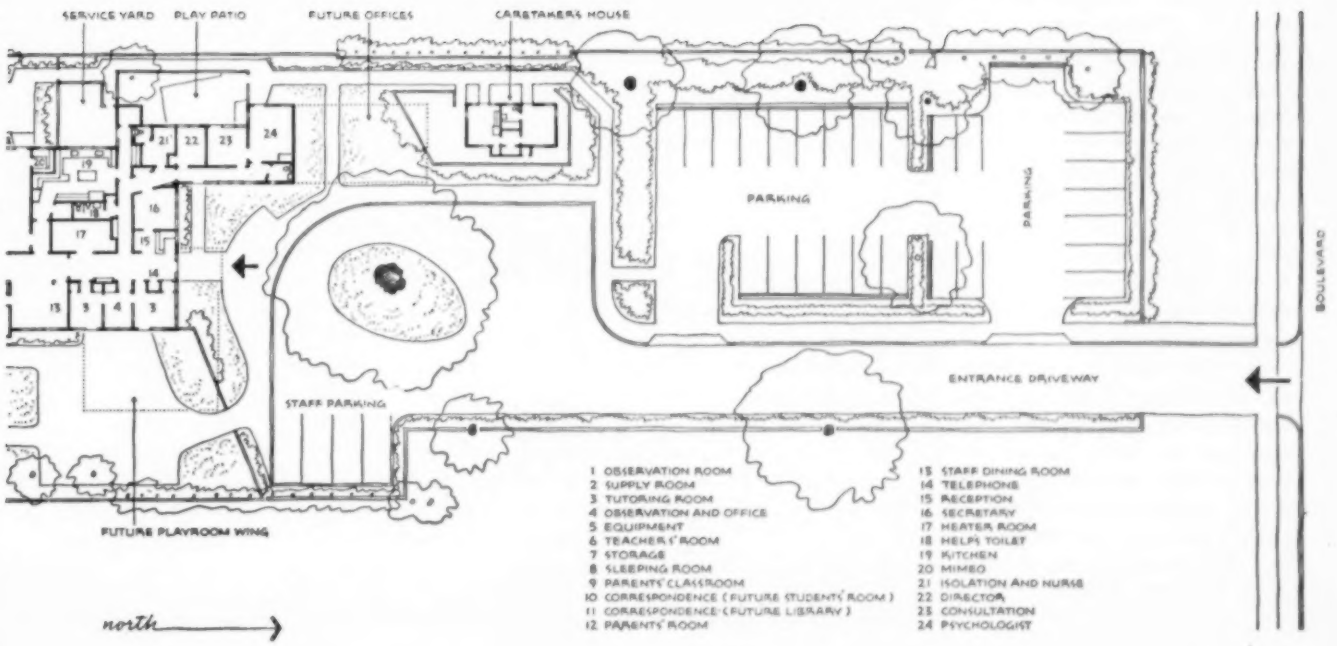


Floor Plan and Plot

Scale 0 50 feet 0 10 meters

The stated purpose of this clinic is "to find, to encourage, to guide, and to train the parents of deaf and hard-of-hearing children. First, in order to reach and help the children, and second, to help the parents themselves." The long, narrow site, plus the wish to save the giant rubber tree in the forecourt, determined the basic plan organization. Each major area has its private outdoor counterpart.

Photos: Julius Shulman



The deaf and hard-of-hearing have a particularly aggravated handicap. For not only must they find the way to cope with the disability, but—unlike most handicaps—impairment of hearing is not readily apparent. Hence, those afflicted are frequently confronted with unwarranted ridicule or embarrassing misunderstandings. Some thoughtless people even consider deafness humorous, which it most certainly is not.

The John Tracy Clinic, founded by Mr. and Mrs. Spencer Tracy and named for their deaf son, is designed to help children who are hard-of-hearing or deaf learn to make their way in a hearing world. A prime element in this process involves intelligent understanding on the part of the parents so that (1) they can make their own necessary adjustments sensibly, and (2) by knowing the nature of their child's problem, be in a position to further his progress.

The clinic offers a wide variety of useful services—consultation to study each child; classes for parents; psychological counseling; correspondence courses; a summer session; a teacher training course; weekly day clinic; and a nursery school for 4-to-6-year-olds.

The long, narrow shape of the building plan was largely determined by the 500-ft deep site whose greatest width (at the rear) is 128 ft. The two playrooms for preschool children are placed at the south end of the structure, and each of these extends into its own fenced play-yard. The toilets may be entered directly from outdoors as well as from the playrooms, and each unit has two special tutoring rooms, with an observation room between them. A sleeping room for nap periods is separated from a parents' classroom by folding doors, and this whole space may be joined to accommodate large groups. A third playroom is planned as a future addition, as are several specialized offices to be added to the administrative wing at the front of the building.

Of standard wood-frame construction, the clinic has exterior and interior walls of plaster; floors are wood, surfaced with asphalt tile (except in the kitchen where ceramic tile is used); ceiling surfaces are acoustic tile. The building is heated by a hot-water system with radiant baseboard units. Natural lighting is used for major requirements, with clerestories (over playrooms, sleeping, and classrooms) covered with adjustable metal louvers.

Sliding doors open the two big playrooms at the back of the building to their separate, fenced play-yards. Adjustable metal louvers and operable-sash elements in the clerestories regulate light and air. Doris E. Chambers, clinic secretary, tells us that "it is a functional and practical building and at the same time a very attractive one. The building combines, as one staff member put it, 'intimacy with space.'"

location	St. Louis Park, Minnesota
architects	Thorshov & Cerny, Incorporated
general contractor	Lebeck & Company

group clinic

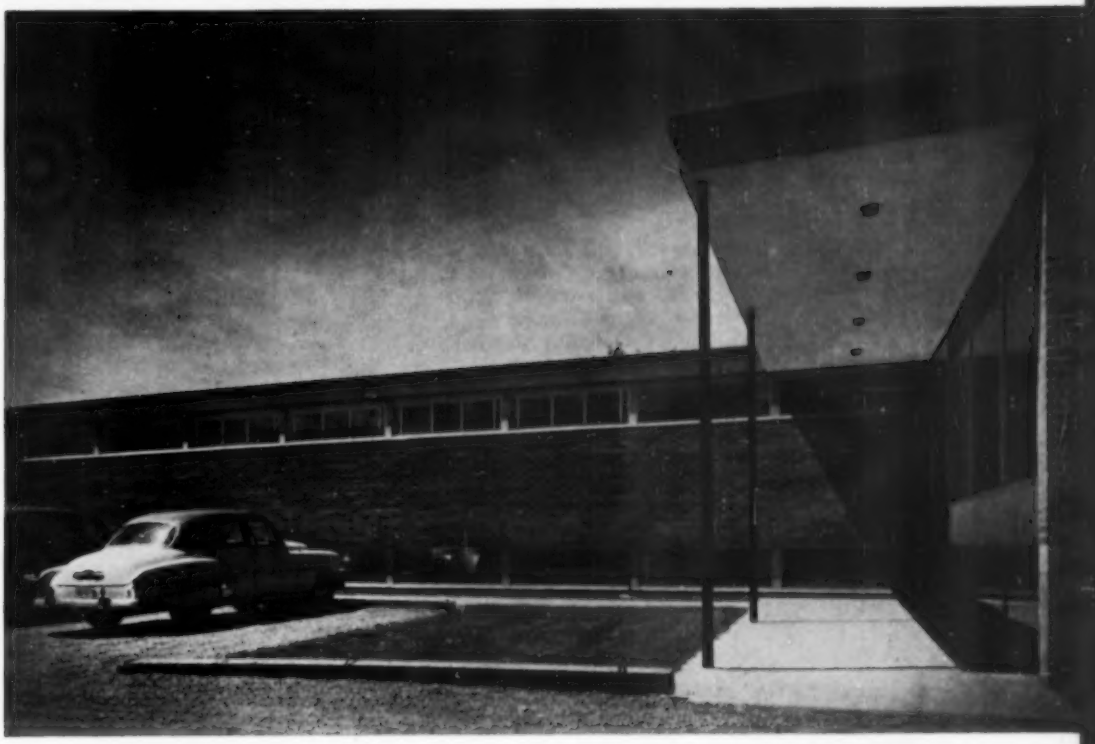
Ten doctors of St. Louis Park, Minnesota —all veterans of World War II—collaborated to build a modern clinic, the St. Louis Park Medical Center. Since each of them is a specialist in one of the following fields—medicine, surgery, orthopedic surgery, urology, eye, ear, nose and throat, pediatrics, and obstetrics—the residents of this Minneapolis suburb now have a central place to which they can go for rather comprehensive medical service. Located near the intersection of Minneapolis' beltline Highway 100 and a main artery into the city, Excelsior Avenue, the Medical Center is quite accessible, and off-street parking is provided for 49 cars.

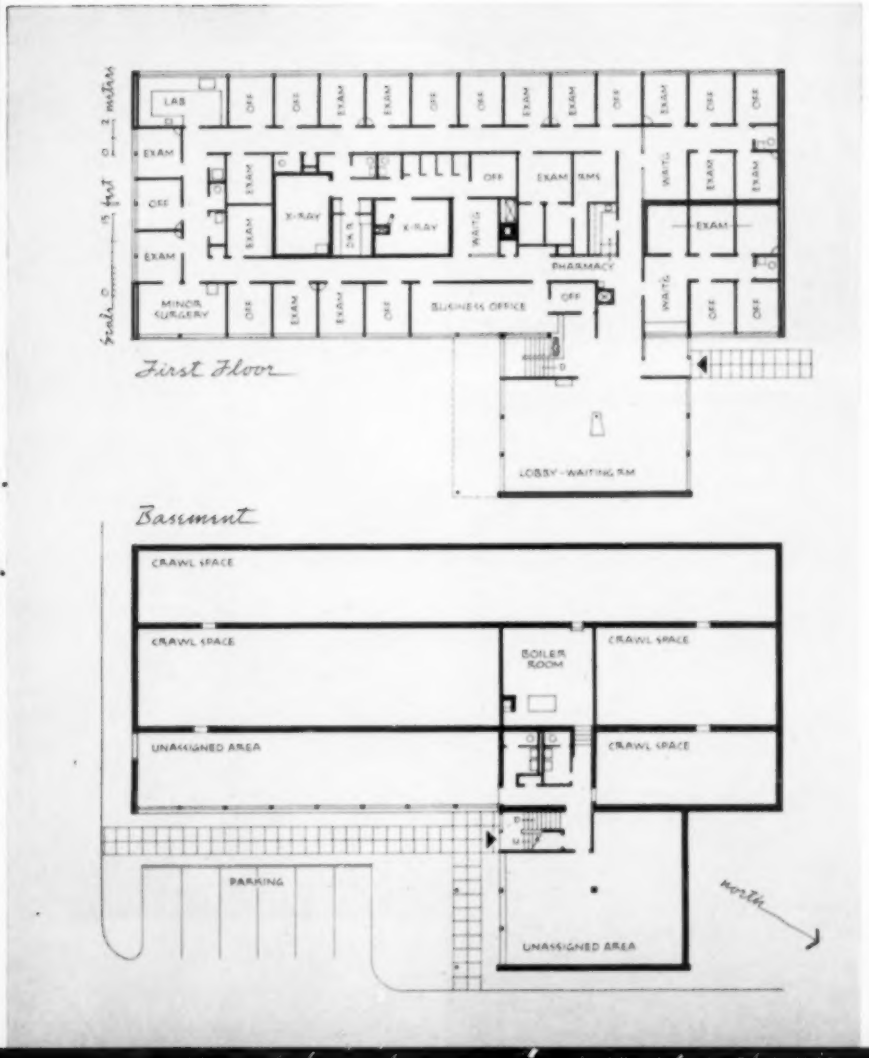
Like Upper Manhattan Medical Group Center *(page 115)*, St. Louis Park Medical Center contains no hospital beds; it is strictly for out-patients. Examination rooms are grouped around the central core of diagnostic facilities, used by all the doctors. Just off the central core are the lobby and main waiting room.

The pediatrics suite, which has its own waiting room, is insulated against sound by double-thick cavity walls; these are also used for exterior walls (*plan acrosspage*).

Otherwise, the structure is steel frame and bar joists, with concrete-block foundations. Modular rooms are partitioned by nonbearing walls which can be taken out when larger areas are needed. With the exception of the main waiting room, all windows are of fixed double glazing, over sills that are 6 ft high. On the down-grade side (*acrosspage*), windows at ground level light the basement. Bottoms of brick walls and opaque glass spandrels indicate level of main floor.

When the building is expanded—the structure was designed for outward or upward expansion—a separate entrance and parking area will be provided for the staff.





Direct expression of exterior (above) *reflects the logical plan* (left). *Large but well shaded window in main waiting room is desirable; while high windows are used in offices and treatment rooms for privacy.*

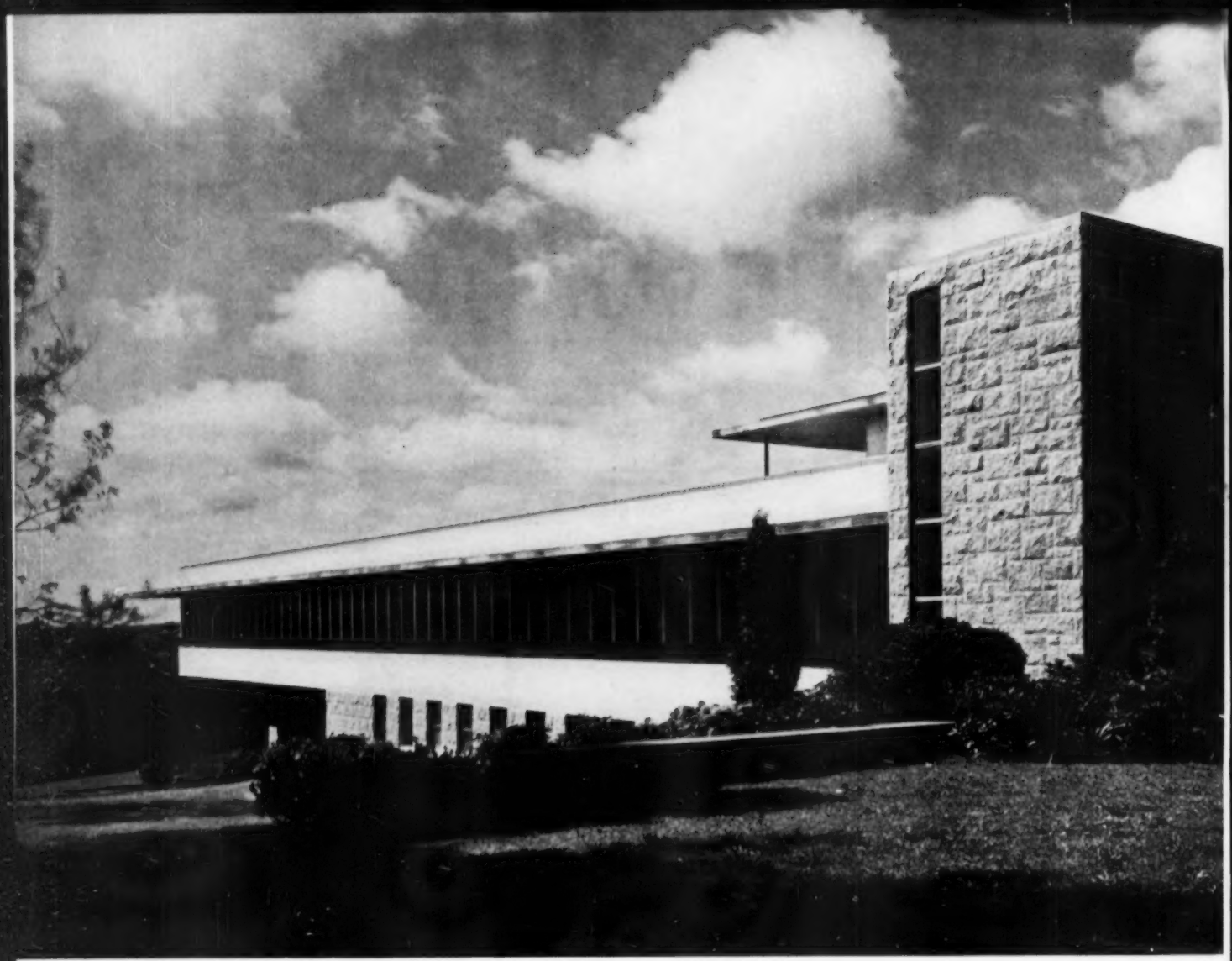
Photos: Reynolds: Photography, Inc.

group clinic

Both of Medical Center's entrances lead to desk (right) *which is just off the main waiting room* (below). *Floors are all asphalt tile, and ceilings are covered with acoustical tile in public areas. Notice how business office is insulated with acoustical tile to deaden sound of switchboard and office machines.*

Pediatrics waiting room (below) *has special decor to occupy children's minds. Just beyond glass-top partition is main entrance.*

Large wall space of nicely furnished office seems to have been a challenge to the doctor.



college infirmary

location	New London, Connecticut
architects	Shreve, Lamb & Harmon
structural engineer	Peter A. Strobel
mechanical engineer	Gerritt H. VanderVeer
decorator	Ann Hatfield Associates
general contractor	A. F. Peaslee, Incorporated

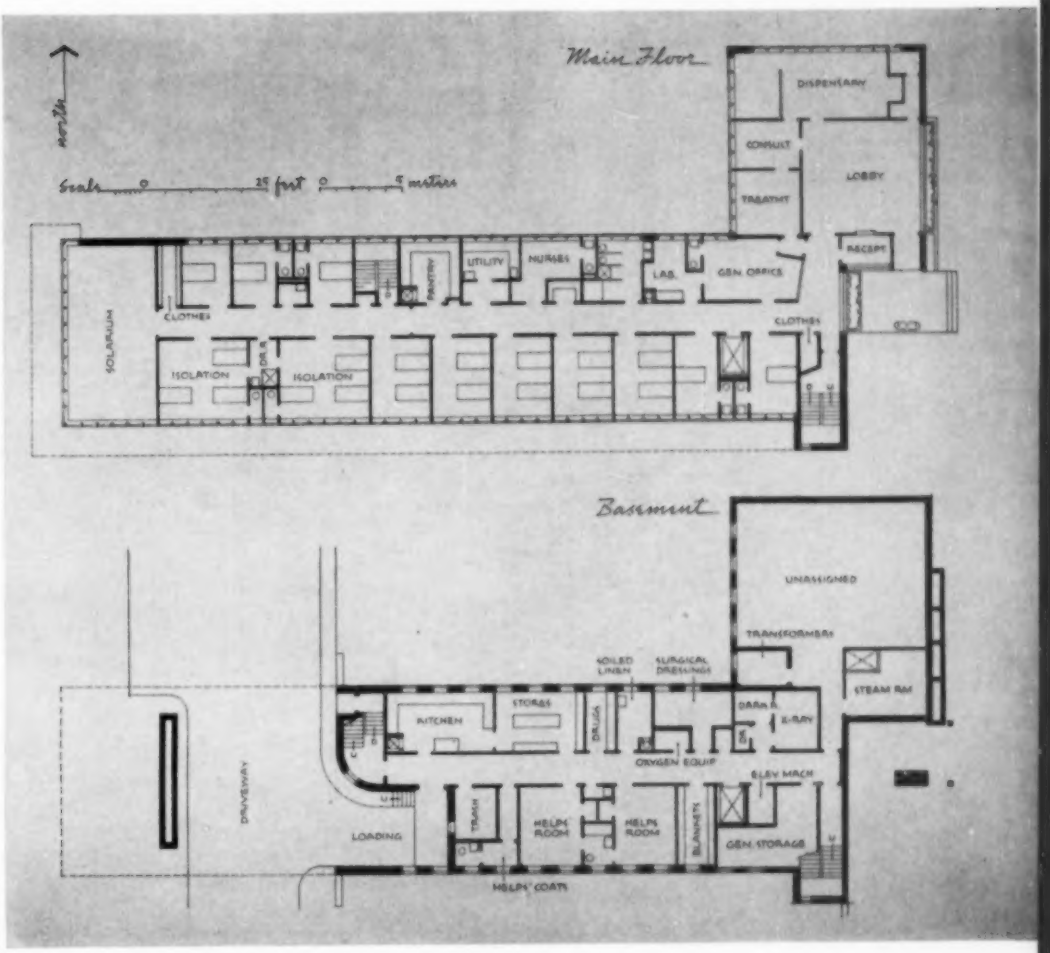
The Connecticut College for Women asked the architects to design a 22-bed infirmary with facilities for routine examinations and clinical treatment for its more than 800 students and teachers. It was not expected, however, to provide for the seriously ill, since a nearby city hospital already had adequate provisions for them.

The site, in the northwest corner of the campus, slopes from east to west, and the infirmary was originally planned to parallel the contour lines. But because a totally submerged basement and western exposure for patients' rooms were considered undesirable, this plan was abandoned. Instead, the main axis of this long, narrow building (*above*) was turned perpendicular to the contour lines, with the east end anchored firmly into the slope, and the west end resting on a steel-and-granite pier, from which 32 ft of the building is dramatically cantilevered.

Although there are three floor levels in the infirmary, only the main floor is used by patients. The entrance to this floor is at the east-end grade level, in a granite-faced element which is visually separated from the ward wing by a massive stone-covered stairwell (*above*). In plan, however, the lobby area is continuous with the ward wing, the only visual separation being the general office and desk, by which those in the lobby must pass on their way to the wards. Also in the lobby element are the dispensary and rooms for consultation and treatment.

The ward wing is a long area divided by a central corridor which leads to the

Penthouse



Connecticut codes require that a building of this type have stairs to the roof, so the architects also put the superintendent nurse's apartment on the roof.

Basement entry (left) *under ward is used for emergencies and deliveries. Road leads to parking lot behind building.* Photos: Joseph Molitor

college infirmary

Solarium (below), *at west end of ward* (right), *is supported by cantilevered steel sections more than 4 ft deep. Louvered sunshades outside and draperies inside provide adequate sun control.*

Large lobby (right), *like solarium, is furnished comfortably and informally. Double doors lead to main entry. Asphalt tile flooring and acoustical tile ceiling are used throughout in public areas.*

Partitions between patient's rooms (above) *occur at window mullions; some partitions contain steel-pipe columns. Colorful draperies dispel the antiseptic feeling of hospital.*

Dispensary (left) *opens into consultation room, through open door, and to lobby, through closed door. Translucent glass is used in windows here.*

solarium (*acrosspage, top*), at the west end. Rooms for patients (*top* and *center*) line one side of the corridor, and rooms for services and treatment line the other. Except for the north wall of the solarium, modular strip windows are continuous around the ward and are protected on the west and south by louvered sunshades of copper.

The basement, most of which enjoys daylight through high windows, is used for service and maintenance. It is connected to the main floor by stairs at both ends, and deliveries are made at the basement level from the road that runs under the ward.

The infirmary's attractions can perhaps be best estimated from the report that for the first few weeks after opening the incidence of light illness took a sudden and sharp rise at the college.

NEW DIRECTIONS IN THERMAL INSULATION: PART VI*

by Groff Conklin

ventilation

There is literally no place in the United States where natural or forced ventilation of certain parts of the house is not of importance. In the warmer climates, room and attic ventilation is almost essential for hot-weather comfort, while in regions where winters are cold, such ventilation is important not only for the summer comfort it gives but also for the reduction in vapor pressure inside the structure that it can cause in winter. In all climates, also, crawl space ventilation is important to keep moisture from rising from the ground into the walls and floors of the building.

The point has been made strongly earlier in this series that it is largely ineffective, and therefore bad practice, to design the house so that the owner will have to do his own ventilating for condensation control by opening and closing windows, doors, fireplace dampers, etc. The housewife simply will not perform this function when it is most needed —when it is very cold outdoors. Consequently, the well-designed modern house must be provided with good automatic, foolproof means of ventilating the roof or attic, the rooms, and the crawl spaces under the house.

There are a few experts in the field who say that ventilation is all that is needed to eliminate the danger of moisture condensation damage and that no vapor barriers should be used. Actually, there is no single cure-all. Both techniques are needed in the tight, relatively small, modern home of today. Prof. C. E. Lund of the University of Minnesota Engineering Experiment Station strongly emphasized this at the Conference on Condensation Control conducted by the Building Research Advisory Board. "You should not sacrifice barriers for ventilation. . . . Barriers should be used . . . wherever possible. However, ventilation does assist in dissipating . . . moisture under the right conditions."

(A) Attic and Roof Ventilation. The part of the house most in need of ventilation in both warm and cold climates is the roof and the attic area under it, if that area is unheated. For many years, it has been customary to specify small gable or hip louvers or vents for the colder parts of the country, usually no more than the minimum size specified by the FHA *Minimum Construction Requirements* series. The size differs from region to region; in the New York area, at least in the southern part, the requirement is 1/300 of the horizontal projection of the roof over the enclosed space, half of that at least to be as near the high point of the roof as possible. Ventilating openings are to be screened; the requirement for screening was recently changed

* *Preceding articles on condensation appeared in the March and April 1956 issues of P/A. A concluding discussion will be presented next month.*

Figure 1—attic louvers in gable of a "Trade Secrets House" built by Gerholtz Community Homes, Inc., Flint, Mich.
Photo: courtesy of the National Association of Home Builders

Figure 2—eave vents protected by overhang face downward.
Photo: from *Design of Insulated Buildings for Various Climates* by Tyler Stewart Rogers

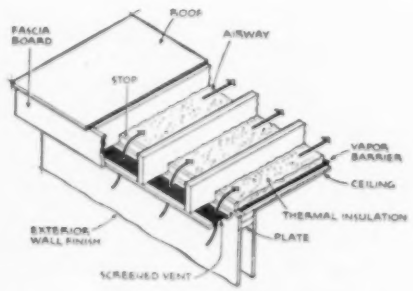


Figure 3—ventilation of flat-roof cornice with hung ceiling. Detail shows vents at underside of eaves for flat (or shed) roof; vents were designed so that they connect with air space above insulation. Vents should be as near outside of cornice as possible so that little or no rain or snow will be driven through them. Vents should not be placed in the face of the fascia board.

from 16-mesh-to-the-inch to 8-mesh-to-the-inch, thus improving the efficiency of air flow but permitting entrance to the attic for many types of insects.

This minimum louver area requirement should, according to good practice, be increased considerably, if the client wishes to have a screening that will keep insects out. A moderately low-pitched roof in which *all* of the gable is one continuous louver is shown (*Figure 1*). Interestingly enough, too, this house—the National Association of Home Builders' "Trade Secrets House" of 1952—was built with these louvers all the way from Houston, Texas, north to Flint, Michigan.

In view of the fact that a really perfect vapor seal is not always easy to install in an attic—particularly around the attic stair well, plumbing vent stacks, chimneys, and other openings—effective attic ventilation is almost a necessity.

In all houses in which the attic ventilation is placed between the rafters rather than the floor joists, in all flat or shed roofs in which there are no attic spaces or there is no room for gable louvers, and in many types of homes with irregularly shaped attics that gable louvers cannot ventilate effectively, eave vents are a necessity. It is only in relatively recent years that provision for eave vents has had to be made, since many older houses without attic insulation had open spaces under the roof overhang between the rafters. However, a well-insulated roof is one in which the insulation seals off the whole house below from the outer air or the cold air of the attic, and thus prohibits the free flow of moisture vapor up from the living quarters and out through the eaves and louvers.

Eave vents may consist of continuous strips, circular holes cut between each pair of rafters, or some intermediate type as shown (*Figure 2*). Possible details for vents in the cornice of a flat roof and another detail for a hip roof are illustrated (*Figures 3 and 4*). In unfinished attics they may simply open into the attic space if there are adequate gable louvers or, in hip roofs, good peak or hip vents (*Figure 5*).

However, special measures must be taken in many houses with finished attics in which there are no collar beams nor gable louvers and where the insulation is carried between the rafters clear to the peak. Special provisions must also be made for all flat or shed roofs in which the insulation is tacked between the rafters or across their bottoms and the rafters butt against the center girder, rather than resting on it.

In the former case, peak venting is necessary. A method of providing air circulation in a peaked roof is illustrated (*Figure 6*). The topmost sheathing board is omitted and the roof cap is made sufficiently large (reinforced perhaps by a thin piece of plywood) so that it will cover the space where the sheathing board

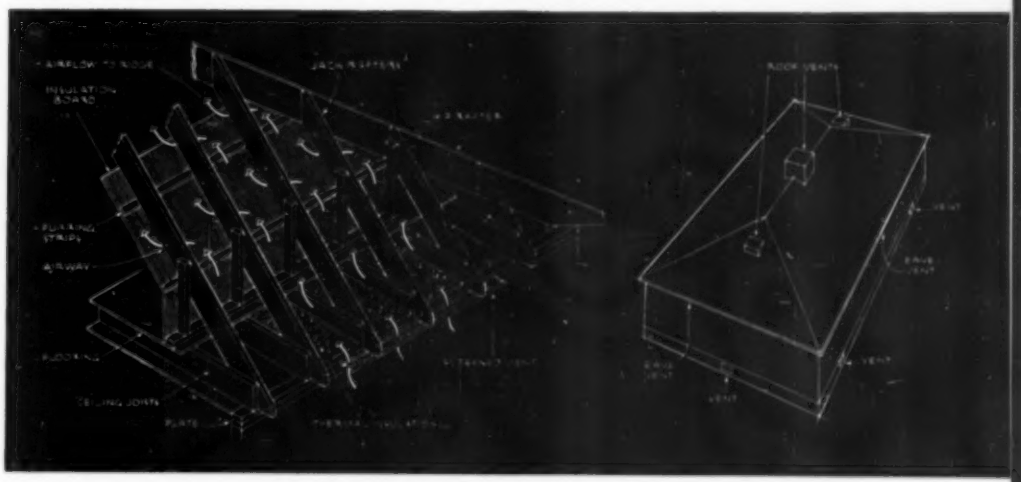


Figure 4—eave vents in a hip roof. In this finished attic the eave vents permit air to enter narrow space between insulation and closed rafter system created by means of furring strips nailed laterally across rafters. Effective air circulation will require a hip louver at roof peak or four smaller louvers, one on each side of the roof (as in Figure 5).

Figure 5—peak or roof vents for hip roofs. Alternate types of vents for hip roofs that supplement and aid ventilation originating at eave vents. Peak vent is perhaps most suitable for houses in which the attic has been finished. Roof louvers are satisfactory for unfinished attics.
Illustrations adapted from *Condensation Control in Buildings*, HHFA, 1949

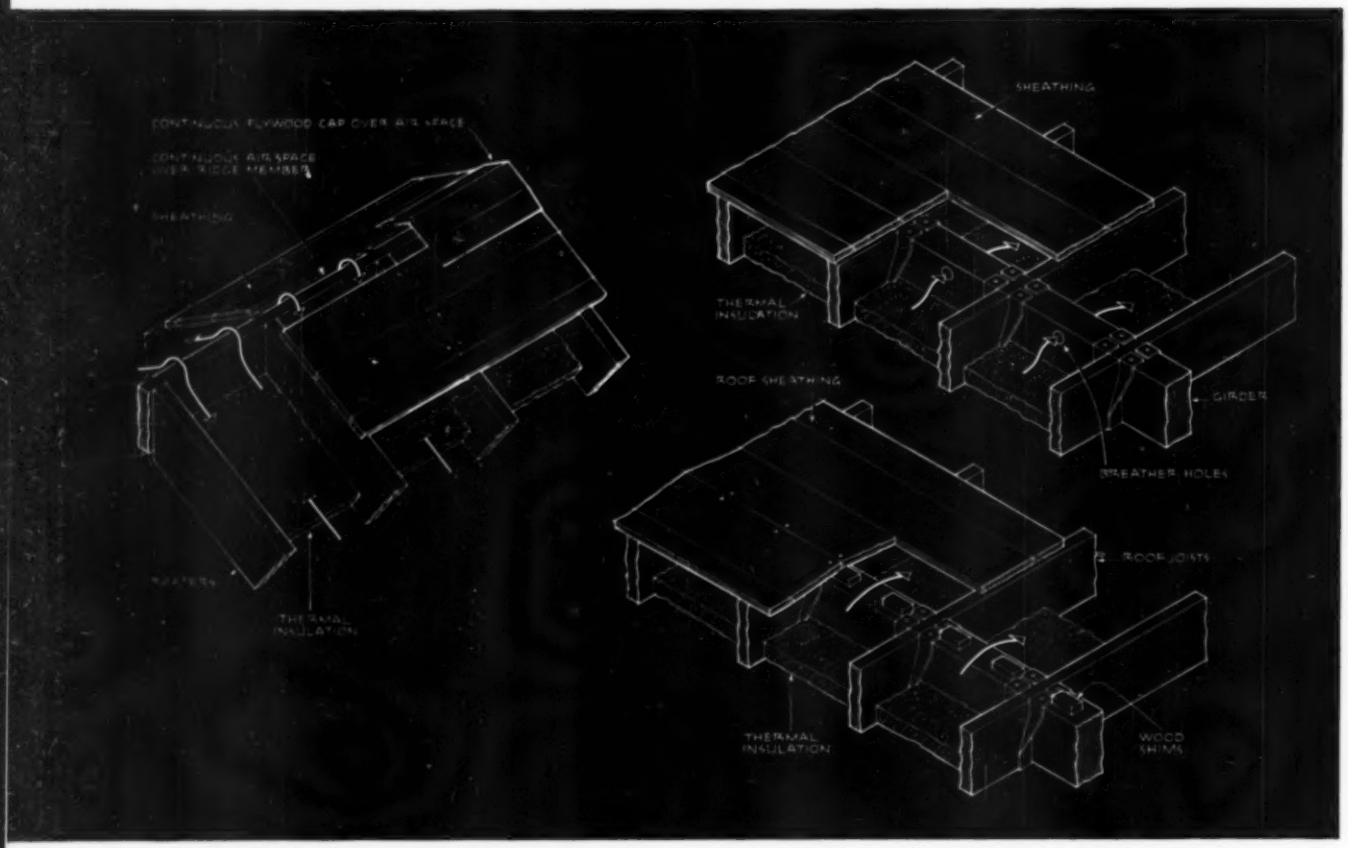


Figure 6—method of providing air circulation in a peaked roof.

Figure 7—alternate methods of providing air circulation through flat or shed roofs.

is omitted and overlap the next board. At each end of the gable the space left by the omitted sheathing board should be screened. Air circulation is thus provided from the eave vents to the peak and then along the peak and out at the edges of the gable.

For flat or shed roofs of the type mentioned above, some provision that will permit air to pass through or over the center girder will be necessary. Small 1″ to 2″ diameter holes bored near the top of the girder, one between each pair of rafters or roof joists, would provide the necessary space, as would 1″ or ½″ wood shims placed at regular intervals on the top of the girder before the roof sheathing is put in place (*Figure 7*).

In many flat or shed roofed contemporary houses the ceiling joists are left exposed for visual effect and the roof is built up directly on top of these joists. Here roof ventilation is impossible and extra care must be taken to make sure that the vapor barrier under the insulation and on top of the roof sheathing is in perfect condition before the built-up roofing is finally put down. A technique for doing this was discussed earlier. Some architects provide for ventilation at the ceiling line in homes of this type by specifying clerestory window strips. It might also be possible to install small louvers in the wall where it meets the roof. They may help to remove moisture vapor concentrations from the ceiling area but may also waste heat if the openings are not carefully designed.

It is, of course, impossible to show examples of all different combinations of attic spaces, built-up roofs, and other methods of finishing off the tops of dwellings. The architect will have to apply the known principles of air circulation to the design of such roofs so as to assure sufficent air motion at all times. This means, as L. V. Teesdale of the Forest Products Laboratory pointed out at the BRAB Conference, that air circulation from all sides of the roof should be made possible by a combination of eave vents and gable louvers. Then, no matter if the house is so oriented that the gables do not face into the prevailing winds, there still will be enough ventilation. Teesdale remarked that there have been many instances where homes have been so located that the winds did not blow against the gable louvers or where the houses were so close together that suffi-

cient air motion was impossible; in such houses "even with brisk winds, no appreciable amount of air would pass through the louvered openings. Additional openings under the eaves were required to provide positive air movement in these houses."

It should, however, be borne in mind, as Prof. Frank B. Rowley of the University of Minnesota observed at the Conference, that "too much ventilation may cause damage by cooling off the top of the insulation . . . to such an extent that the vapor, in coming up through the floor below, will condense [in the insulation] before it gets a chance to diffuse in the attic area." With a good ceiling vapor barrier, however, this is not likely to be a particularly probable occurrence.

(B) Forced Ventilation in Attics. It is becoming an increasingly popular practice to include attic exhaust fans in all but the lowest cost homes, except, of course, in those with year-round air conditioning. From the point of view of summer comfort, such fans are almost necessities in most parts of the country, even the northern tier of states. The fans are sometimes installed in the attic floor to suck air up from the rooms below and exhaust it through gable louvers, eave louvers, or small roof penthouses on flat roofs.[1] When fans are placed in one of the gable windows or in a special gable louver, provision is made so that the air is pulled up from the rooms below, either through the attic stair well or through a special vent-duct in the ceiling.

Attic fans of this type are hardly suitable for winter attic or roof ventilation. They are too powerful and waste too much heat. Furthermore, the ceiling opening through which the air is pulled up by the fan must be provided with a tight cover, complete with insulation and vapor barrier, to prevent heat and moisture vapor leakage during cold weather. When an attic stairway or scuttle access is used for summer air circulation, the protection described earlier will be sufficient.[2] When there is a direct ceiling opening for a fan, special precautions will have to be taken to provide insulation and a vapor seal over it during the winter months.

(C) Wall Ventilating. All houses, except air-conditioned homes with fixed glazing, are provided with the most satisfactory means of winter ventilation known to man: windows. In the summer, open and screened windows are the only really effective means of cooling a house by means of air currents alone; fans can speed up the process, but a fan which merely stirs up air inside a closed house is not doing an effective job.

However, the point has already been made that these ideal ventilators will not be operated efficiently by the home owner when the weather gets cold. Some other method of reducing interior humidities when they reach a point where they could damage the structure must be found. Theoretically, a good vapor barrier will handle the problem, but no barrier is perfect. Furthermore, too high a concentration of moisture inside the house can actually damage window frames as condensation on the window drips down, and cause mold and mildew in closets and elsewhere.

Of course, the major problem in most home owners' minds is keeping interior humidities up. When it is very cold indoors, the air inside the house is likely to become extremely dry unless the structure is tightly sealed with vapor barriers, weatherstrips, and storm windows. Consequently, pans of water are often set out on radiators or warm-air grills, humidifiers are set to work in warm-air furnaces and elsewhere, and, in extreme cases, kettles of water have been set to steaming on stoves.

This need for high interior humidity has led to various expedients for reducing the vapor pressure on the walls of a dwelling. The most common of these are wall vents, either airing the outer side of the wall or actually venting the room directly to the outdoors, and automatic dehumidifying installations.

People in the paint industry primarily concerned with the elimination of exterior paint failure, often use some means of ventilating the siding or shingles, so that the circulation of air will drive off the dangerous concentrations of moisture inside the wall. Some types of siding with very narrow overlap provide cracks between the strips that give a certain amount of air motion—but these types also permit wind-driven rain to damage the wall. When the siding has a wide overlap, small wedges have been known to be used to provide air circulation behind the siding strips. In existing homes that have been winterized and therefore do not have adequate vapor barriers, these techniques may be permissible but they are not desirable in new construction with good vapor barriers.

Another idea frequently promoted is the provision of small vents at the top and the bottom of the wall between each pair of studs. These can either be small holes cut at an angle through the bottom and top plates, or prefab metal louvers or plastic tubes $\frac{3}{4}$" or more in diameter placed at the base and the top of each stud space.

It is the best-informed opinion that this is a poor expedient. In the first place, good design calls for fire stops between each pair of studs, both for the purpose indicated by their name and also as a means of strengthening the wall. No vapor would be able to penetrate these stops unless holes were bored in them, in which case their value as fire stops would be destroyed.

Secondly, it has often been shown that condensing moisture vapor in a narrow space will tend to migrate to the colder side of the wall area rather than being "sucked up" to the top vent by stack action, unless the air motion is so strong as to reduce the temperature to a point where droplets that would be too large to be lifted by such air motion would be formed.

Finally, any small hole or louver at the bottom of a wall located in a cold climate is likely to become clogged with snow or ice just at the time when the air circulation theoretically would be doing the most good. This water might penetrate through the holes or louvers when

[1] *W. H. Badgett, in his excellent pamphlet* The Installation and Use of Attic Fans, *published by the Texas Engineering Station, College Station, Tex. (1940) makes the following point against so installing attic fans that they exhaust the air vertically upward from the rooms, rather than at an angle. "Every effort should be made to avoid vertical installations in residences because air and mechanical noises usually prove objectionable with the fan installed directly above the ceiling grill."*

[2] *Page 125, April 1954 P/A.*

Table I

	Air in	Air out				
Temperature	32 F	70 F	70 F	70 F	70 F	70 F
Relative humidity	Sat	24%	30%	45%	60%	Sat
Absolute humidity (Lbs water/lb air)	0.00379	0.00380	0.00475	0.00712	0.00950	0.01582
Water vapor removed from house (Lbs water/lb air)		0.00001	0.00096	0.00333	0.00571	0.01203
Enthalpy (Btu/lb air)	11.758	20.986	22.026	24.636	27.516	34.090
Total heat removed from house (Btu/lb air)		9.228	10.268	12.878	15.758	22.332
Air necessary to remove 1 lb water vapor from house (Lbs air/lb water)		1,000,000	1,042	303	175	83
(Cu ft air/lb water)		13,450,000	14,000	4,070	2,350	1,020

If a house has a volume of 10,000 cubic feet and an infiltration rate of one air change per hour, which is considered typical, the water removal rate is:

$$\frac{10{,}000}{14{,}000} = 0.714 \text{ lb per hr}$$

Then if the house is equipped with storm windows and vapor barriers and is otherwise arranged for a humidity of 45 percent, the ventilation rate necessary to remove the same amount of water in the form of vapor is:

$$4070 \times 0.714 = 2900 \text{ cu ft per hr}$$

The heat loss due to ventilation in the original case is approximately:

$$\frac{10{,}000}{13.5} \times (70 \text{ F} - 32 \text{ F}) \times 0.24 = 6750 \text{ Btu per hr}$$

The heat loss due to the same cause in the second case is:

$$\frac{2900}{13.5} \times (70 \text{ F} - 32 \text{ F}) \times 0.24 = 1960 \text{ Btu per hr}$$

The estimated saving is:

$$6750 - 1960 = 4790 \text{ Btu per hr}$$

If the total heat loss of the house is 50,000 Btu per hr for an outdoor temperature of 32 F, the saving amounts to:

$$\frac{4790}{50000} = 9.6 \text{ percent of the total heat loss}$$

melting occurs and damage from rot could easily result.

In other words, it would seem that any attempt to ventilate the outer layers of the walls of a home is likely to be foredoomed to failure. As Rowley put it at the Conference: "You may get into more difficulty with wall vents than without them."

(D) Ventilating From The Interior. It would seem, then, that the only suitable method of reducing dangerous concentrations of humidity inside the house, when they occur, is interior ventilation, preferably by some method that will operate automatically.

In this connection, it is worth quoting R. S. Dill of the National Bureau of Standards to show that interior ventilation is actually less wasteful of heat than one might imagine. His example, already a classic in the literature of building condensation, is reprinted here for the convenience of architects not already familiar with it:[3]

"Some persons find low humidities uncomfortable. Glued wooden furniture deteriorates when the humidity is too low . . . [Actually,] the ventilation required to dispel the water vapor generated in a house is less when the humidity is high. This is illustrated by the following table . . . which shows that for air entering a house is less when the humidity is high. 70 F and 30 percent relative humidity, 14,000 cu ft are necessary to remove one pound of water, in the form of vapor, from the house." (*Table I.*)

In other words, it costs less to ventilate an adequately insulated and moisture-protected house than it used to cost in the days when houses were unprotected. As Dill put it at the BRAB Conference: "Less ventilation is required to dispense with a given amount of water vapor when the humidity of the ejected air is high. Hence, fuel savings are favored when higher humidities are maintained in the house."

This means, really, that the structure must be built so that its parts can withstand a vapor pressure resulting from humidities ranging between 40 and 45 percent. This is about the level, according to most authorities, which the average person requires for comfort and good health. It is far higher than would exist in unprotected houses. The problem is, however, that in such homes there is a marked tendency for humidity to rise *above* that level "until," in Dill's words, "condensation occurs on some surface in contact with the inside air," causing mold and mildew damage and even worse. Also, it may be pointed out that such high concentrations of vapor can penetrate gaps in the vapor barrier and pour into the wall or ceiling, to condense and

[3] *From* Condensation in Buildings *by Richard S. Dill, National Bureau of Standards Letter Circular LC-863, 1947, p. 9.*

cause paint failure and rot unless adequate ventilation is provided.

There are two methods of controlling excessive interior humidities by ventilation in winter that do not call for operation by the home owner. Both of them, naturally, involve bringing in some of the cold, dry air and ejecting some of the warm, humid air. One is by means of an air intake on the furnace; this is probably suitable only for warm-air units. Here the home owner often shuts off the normal air intake in the winter or else humidifiers are attached to the unit to add moisture as the dry air enters. By attaching a humidity controller to the air intake or the humidifier, set to operate when the humidity reaches, say 45 percent, an automatic and foolproof method of keeping interior humidities below the danger point can be achieved. *(Figure 8 shows a new type of electronic controller.)*

The other method is to connect a humidity controller to an automatic fan in the kitchen, bathroom, or laundry, or any combination of these, and also to some intake vent elsewhere in the house near the ceiling. When the humidity reaches the danger point, the controller would be set to open the intake vent and start the exhaust fan, thus pulling the warm damp air out and cold dry air in until the moisture in the air has reached a predetermined point.

The necessity of including such precautionary instruments as a humidity controller in a new house is hard to establish. The typical home owner has no idea what level of humidity his family prefers, and even less of a notion what humidity level the family's living habits are likely to cause. Consequently, if a well-designed house is provided with a good semiautomatic kitchen fan and one or two modest vents somewhere near the top of the ceiling and normally left closed, it would always be possible to put in the necessary automatic controls should the need arise. This could even be specified by the architect in the contract, if he chooses, together with an estimate of the added cost.

Of course, if the family objects too strenuously to these solutions because of fancied drafts or high heat losses, one can always resort to silica gel dehumidifiers with built-in controllers; these can be placed at the source of the greatest production of moisture with the hope that they will solve the problem. This is an expensive alternative and not one to resort to until the house has been lived in for a while, but it may be called for in exceptional instances.

(E) The Problem of Double Glazing. One minor annoyance that sometimes reaches the proportions of a problem is the condensation that occasionally shows up on the outer pane of double-glazed windows. This is not likely to occur unless the double glazing is in the form of storm windows that are weatherstripped or otherwise tightly sealed. But if they are, there is a way of eliminating the condensation that is the essence of simplicity. Robert Miller of Pittsburgh Plate Glass Company suggested it at the BRAB Conference:

"If . . . you have condensation occurring on the outermost glass and you vent it from the bottom, you will not be particularly successful in getting the moisture off that window. However, if you will also put a very small vent, of the size of . . . a pencil hole at the top of the window so that there may be some slight circulation through the window, you will get complete elimination of the condensation on the outer window and will not materially increase the likelihood of condensation on the inner window." The heat loss, too, it may be added, will be extremely small.

Naturally, such a trick should not be tried with insulating glass windows such as "Twindow" or "Thermopane." In any event, there is little likelihood of serious condensation occurring on such windows, so the problem probably will not arise.

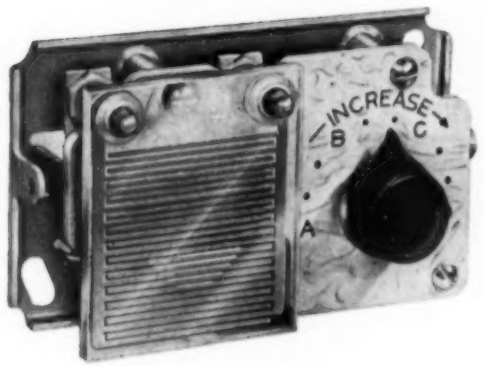


Figure 8—electronic humidity-control system features operating differential of one-half percent relative humidity.

Photo: courtesy of Minneapolis-Honeywell Regulator Company

Part VII will appear in August 1954 P/A

six-story lift-slab building

by J. Hoogstraten and S. J. Borgford*

What is believed to be the first six-story, lift-slab building has just been completed at Winnipeg, Manitoba. Except for the fact that the roof will be supported by the walls and partitions of the sixth story, the general procedure followed in the design and erection of this structure was that outlined by Fred E. Koebel in his article "Structural Aspects of Lift Slab" *(page 93, February 1953 P/A)*.

In the first stage of construction, columns a little over three stories high were erected. The sixth floor was raised and temporarily connected to the tops of these columns. After the slab was braced with guys, the fifth floor was raised and temporarily connected immediately below the sixth floor. The fourth, third, and second were then raised in succession and permanently fastened in position. Next, the fourth- and fifth-story columns were welded in place *(left half of Figure 1)*. The second stage consists of raising the sixth and fifth floors into position as shown *(right half of Figure 1)*.

A square, box-section column composed of two 8″ x 8″ angles is generally used in lift-slab construction because of its relatively large radius of gyration and because it fits the 15 in. center-to-center distance of the lifting screws. For six-story loads, however, the angles must be ¾ in. thick in order to provide enough cross-section area, and the cost of welding and straightening becomes correspondingly greater. For these reasons it was decided to use 12 WF 72 and 12 WF 65 rolled sections for the lower and upper columns respectively. The first-story columns were designed as modified composite columns—a 16″ x 16″ concrete column was poured around each steel section to take the second floor loads.

For the initial lift of the sixth floor, with the jacks mounted on columns approximately 26 ft above the stacked slabs, the tops of the columns are not supported in either direction. Therefore, the effective length must be taken as twice the actual length, producing a slenderness ratio of 218 and a Euler critical load of 139 kips for the 12 WF 72 section. As the lifting load was 54 kips, the section was deemed safe for this loading case. With the sixth floor

* *Professor and Assistant Professor, Department of Civil Engineering, The University of Manitoba, Winnipeg, Canada; consulting engineers for this building.*

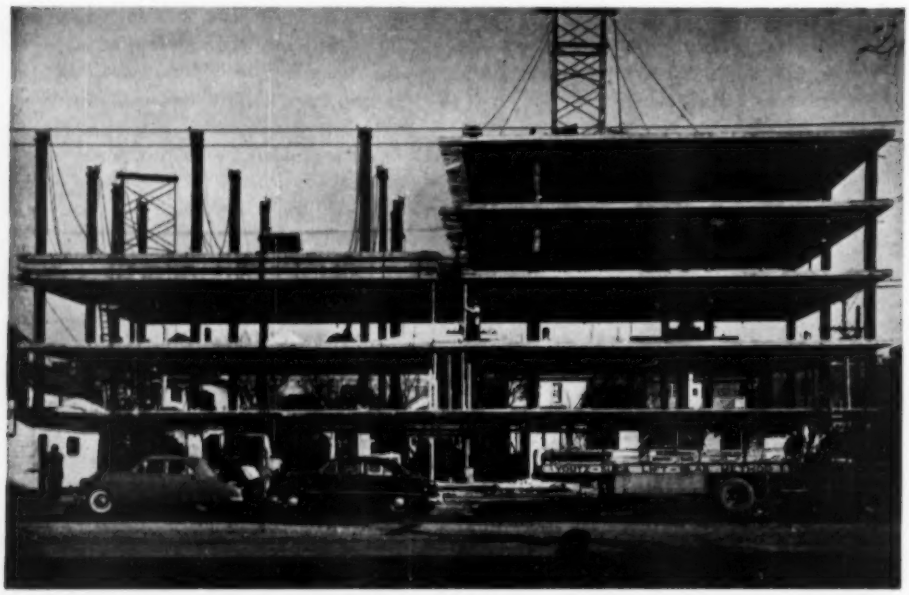


Figure 1—two stages of multistory lift-slab construction. All six floors are in final position in right half of photo; floors six and five are about to be raised at left. Roof will be supported by walls and partitions.

slab in place and braced by guys, the unsupported length of the column is reduced and during the remaining lifting operations, column stability is not critical.

The lifting-collar casting was designed for a jacking load of 65 kips and a total load of 122 kips. Some assumptions regarding the interaction of the collar and slab are necessary to achieve a fairly rational design, and the assumptions made are illustrated in the accompanying diagrams.

It was assumed that the vertical load, represented by W, is uniformly distributed *(Figure 2)*. V is the vertical shear; $\therefore$ V=W. The couple whose forces are V and W is opposed by a triangularly distributed system of forces having a resultant F_1 arising from compression between the collar and the slab, and the forces F_2. The forces F_2 provide the normal ring stresses in the horizontal flanges as indicated *(Figure 4)*. The external force system on the collar for the lifting condition is shown *(Figure 3)*.

With these assumptions, it is possible to draw free-body diagrams for all elements in order to complete the design.

For the total load condition, the collar was designed for both top and bottom welds to the column flanges. A photo of the collar is shown *(Figure 5)*. The forces F_1 in the concrete can be evaluated and it was found that they increase the tension in the column-strip steel in the order of five percent for the lifting condition. Typical bays are 21′ x 23′ and the slab thickness is nine in. Architects: Smith Carter Katelnikoff.

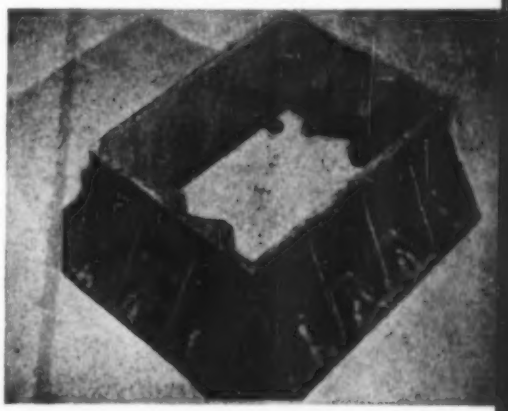
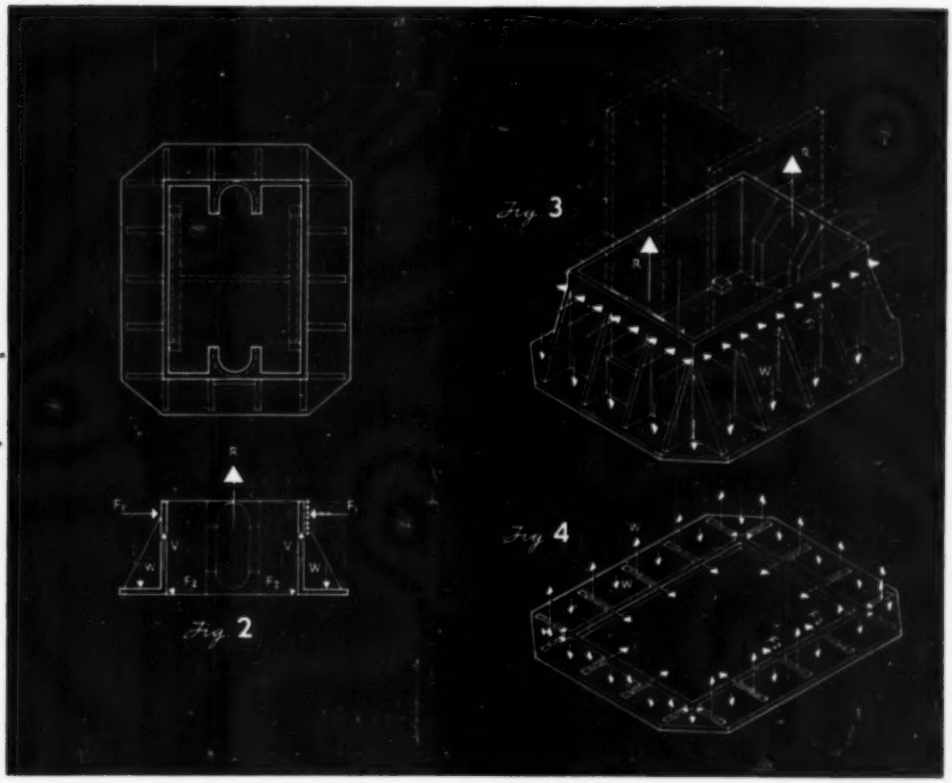


Figure 5—lifting collar was designed for both top and bottom welds to the column flanges and for a total load of 122 kips.



by Ben John Small

flaws in doors

Hoe Corporation of Poughkeepsie, New York offers an illuminating autopsy on defective door specifications. I think it is an excellent commentary: worth remembering. Space does not permit more examples; however, don't fail to ask me for additional material.

1. *Specification:* "All interior doors shall be flush type as manufactured by Crooks, Roddis, U.S. Plywood, Mengel, Hardwood Products, Haskelite, General Plywood, New Londoner, Paine, or as approved."

Analysis: This specification is taken verbatim from one school building. It is undoubtedly the worst, from the architect's viewpoint, that could possibly be written. Apparently the architect has gone to Sweet's Catalog and listed just about everybody who advertises wood doors. He has not even said whether the doors should be solid core. Elsewhere in his specification he said that all doors were to be birch. Several of the manufacturers listed make both hollow core and solid core. If you were bidding this job competitively, I am sure you would base your price upon hollow-core doors because there is nothing in the specification that forbids them, yet the chances are very good that if hollow-core doors are furnished, the architect will be most unhappy as he probably intended solid-core doors. Who is to blame if this occurs?

2. *Specification:* The following paragraphs are both from the same job but occur on different pages of the specifications:

a. "Flush-veneer doors as manufactured by U.S. Plywood, Roddis, or equal. Face veneer ⅛", cross banding 1/16", core solid with rails framed into stiles."

b. "Flush-veneer doors shall have stiles, rails, and panels of built-up cores of narrow strips of pine. The entire core of doors shall be covered with a 1/16" thick cross-veneer of birch and a 1/16" thick finished-veneer of kinds of wood specified."

Analysis: Neither paragraph describes any door customarily made. Furthermore, the two paragraphs are contradictory; one calls for a face veneer ⅛", the other calls for a face veneer 1/16". What kind of door would you assume was required and used in making up a price? The core construction in both cases is the Crooks or Hardwood Products "straight flush." The thickness of veneers is not used by anybody. Actually the door that is described in paragraph (b) is strictly a special door at a special price. The door described in paragraph (a) is a door Hardwood Products used to make under the name of "sturdy flush type" but does not make any longer, except on special order and even then their cross band is 1/12", not 1/16". This specification does not describe the Hardwood Products "Master" door because of the core construction.

3. *Specification:* A complete detailed description of the ¼"-veneer door with stile and rail core as made by Crooks and Hardwood Products "straight flush" is given, followed by the sentence, "doors made in strict accordance with the above detailed specifications by any manufacturer will be approved."

Analysis: This is a very excellent way to write a specification covering a ¼"-veneer door. It permits any other manufacturer to make the door if he so wishes (no manufacturer such as Roddis or U.S. Plywood will make the door), and, therefore, has the effect of restraining other door manufacturers from complaining that they are being excluded from a specification (as, in this case, the architect has made very plain what he wants).

4. *Specification:* The specification describes and clearly specifies the 5-ply slab-core door, then goes on to state that all doors must be guaranteed for the life of the installation.

Analysis: This specification is an example of lifting part of one manufacturer's specifications from the context and imposing it on another type of door. U.S. Plywood Kaylo "stay-strate" door is the only door on the market at the present time guaranteed for the life of the building. As a general practice, most other manufacturers guarantee the doors for two years from the date of installation.

5. *Specification:* "Interior doors shall have cores of 5-panel type divided by cross rails, cross banding, and 1/28" face veneers, and shall be as manufactured by Roddis, U.S. Plywood, or equal."

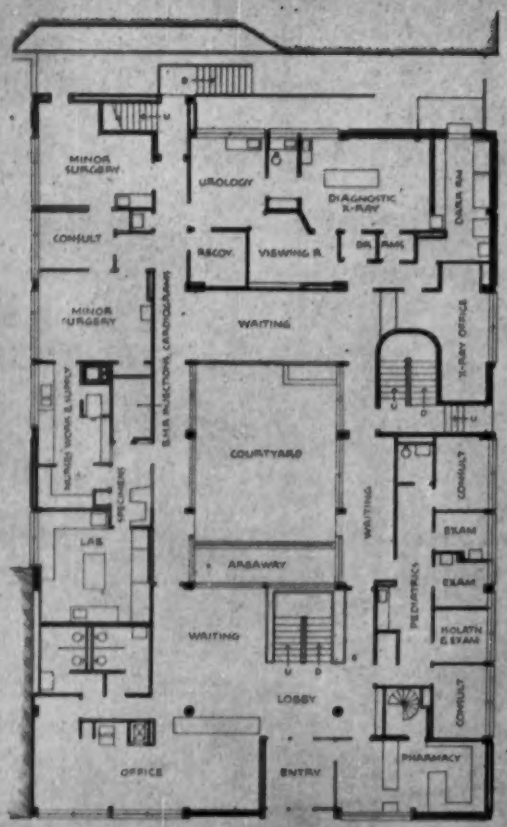
Analysis: The door described is not made by any manufacturer. On what door would you base your price?

6. *Specification:* "Doors shall have louvers with free air openings as indicated on heating and ventilating plans."

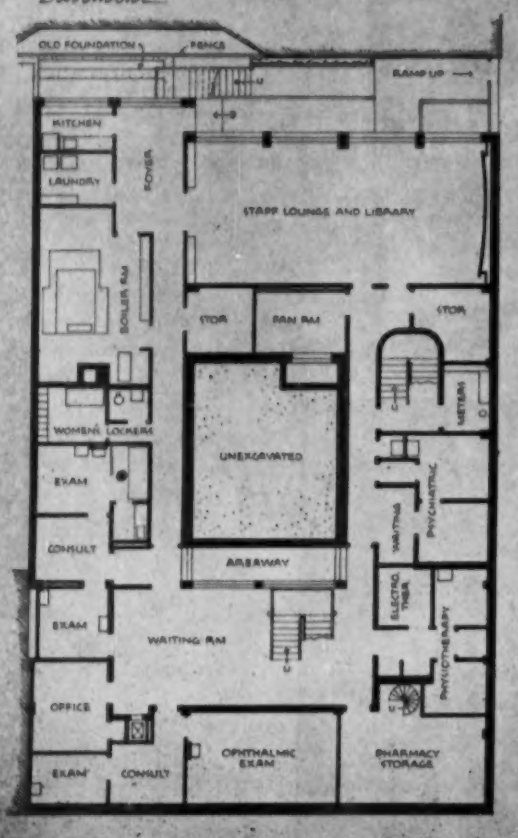
Analysis: Nothing is said about wood or metal louvers. Furthermore, the heating and ventilating plans are not usually available to the mill, and, therefore, there is no way to tell how many doors, much less which ones, require louvers, nor their size.

health insurance plan clinic

location	New York, New York
associated architects	George Nemeny, Abraham W. Geller, Basil Yurchenco
structural-mechanical engineer	Peter Bruder
heating-electrical engineer	Bernard Green
interior furnishings	Integra
clerk of the works	William Cox
general contractor	Adson Builders, Incorporated

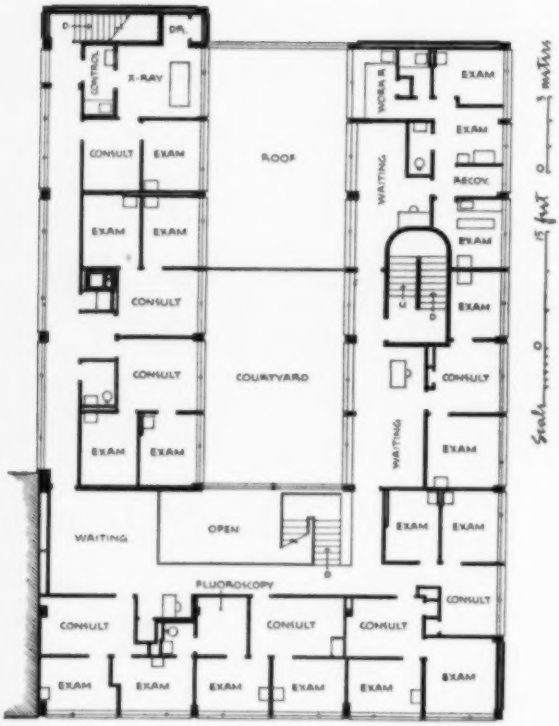


First Floor



Basement

Almost a half-million people in the New York metropolitan area are now members of HIP—Health Insurance Plan—an organization which believes, frankly, that it is cheaper to treat patients before they become seriously ill, and that, in this way, many more people can get the medical attention they need. Despite criticism of medical group practice from conservative and reactionary quarters, HIP and others like it are doing well what they set out to do. Evidence of this is the new Upper Manhattan Medical Group Building which was completed in October 1953, a



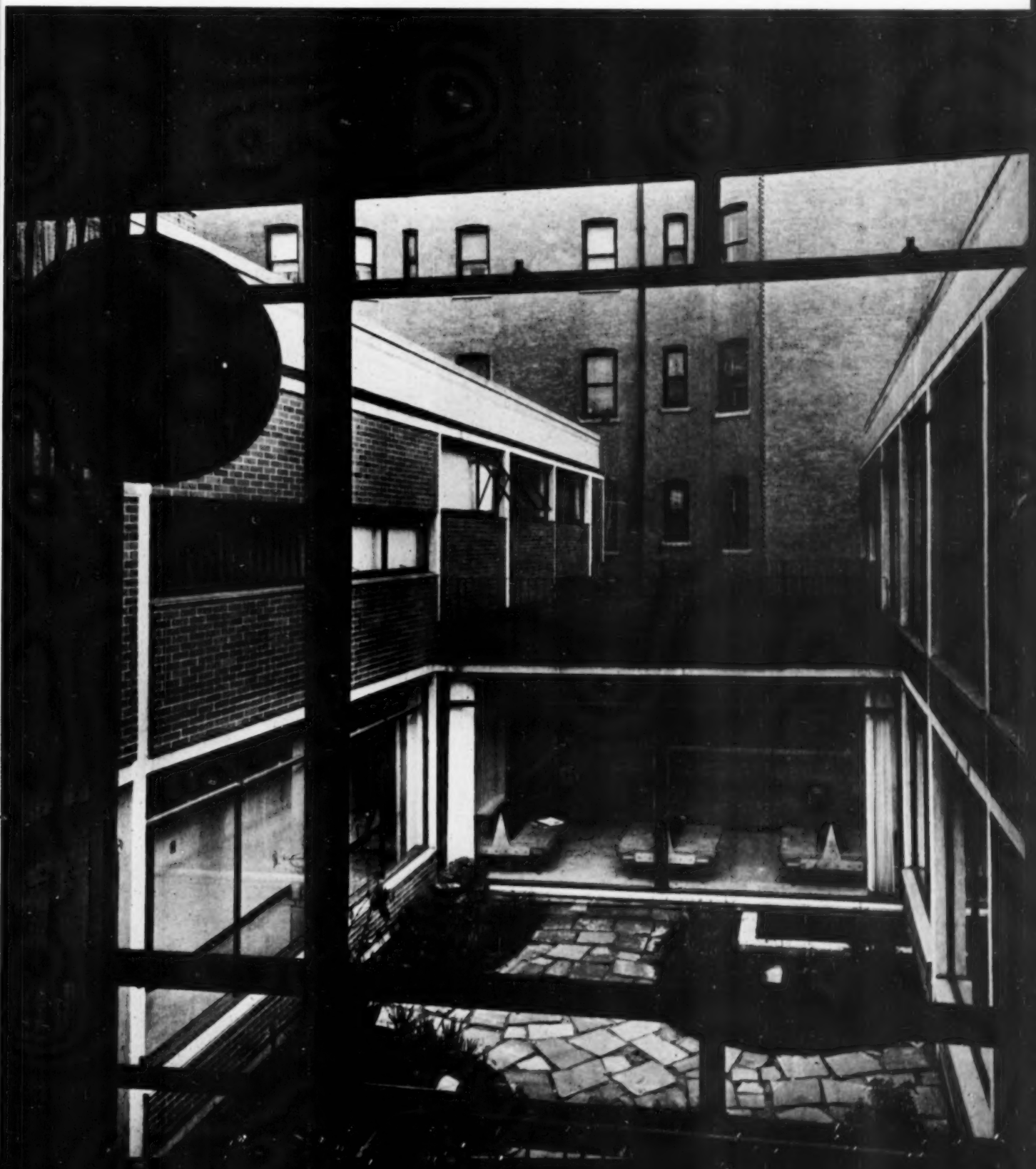
Second Floor

signal step in the advancement and expansion of HIP.

On a typical 60′ x 100′ corner lot in Harlem, UMMG serves approximately 15,000 HIP members and 5000 private patients, treating them for everything from toothaches to fractures. Manned by a large staff of specialists, some of whom have private offices outside the building, this health plant is planned to handle routine examinations quickly and thoroughly

health insurance plan clinic

Sofas in waiting room across court from main lobby were designed by Integra and are set before a wall of brilliant red. High windows at second floor indicate examination rooms; lower windows indicate consultation rooms. Drapery at left is bright yellow-gold.
Photos: Louis A. Reens



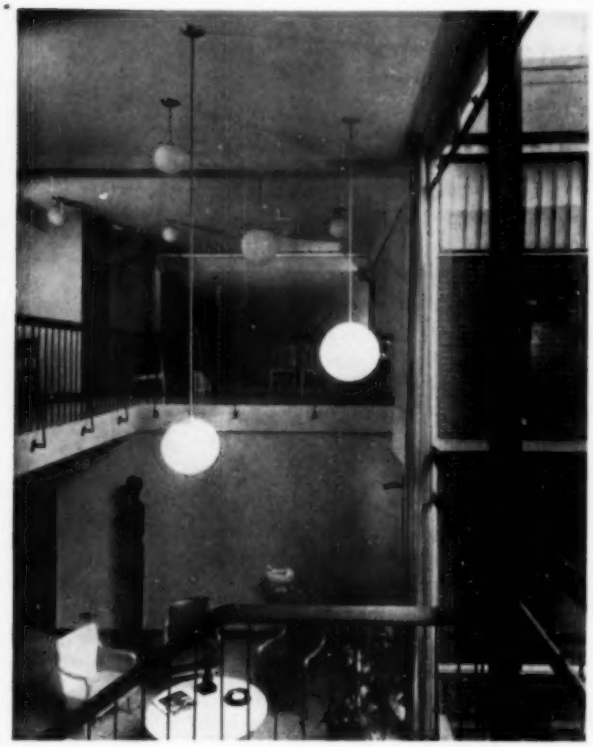
health insurance plan clinic

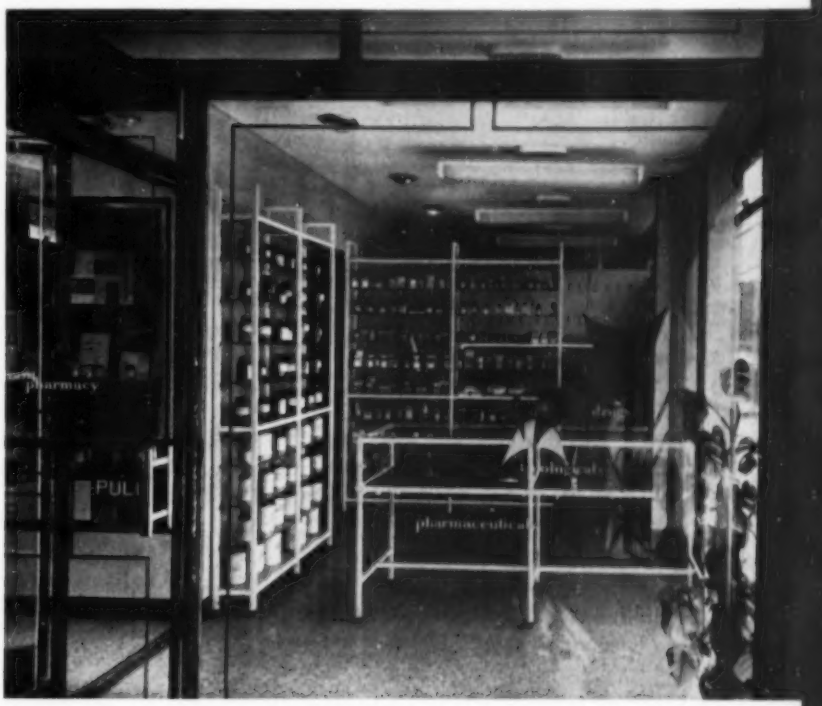
on the main floor. Except for the Pediatrics suite, which is on the main floor, the suites for specialties are on the other two floors—Eye, Ear, Nose, Throat, and Ophthalmology being in the basement along with staff conference room and service facilities.

The unexpected feature of the building—one which is not apparent from the outside—is the garden court in the middle of the plot. Because of this planning device, almost every room enjoys daylight, and those that face the court have pleasant views. This court, together with the large glass areas surrounding it, creates a feeling of spaciousness which belies the size of the building. For example, the dramatic staircase (*see also* SELECTED DETAILS) in the main lobby is visible from other waiting areas, corridors, and offices. Dramatizing the space above the main lobby (*below* and *acrosspage*), which is separated from the court only by a glass wall, light globes of varied sizes have been suspended at different heights.

Partly due to the difficulty of obtaining steel when the structure was designed, the architects used a reinforced-concrete structural system with reinforced-concrete floor slabs which contain hot-water radiant-heat coils. To express the structure, the concrete has been left its natural color and has been exposed wherever feasible, inside and out. Between the exterior columns and slabs, brick panels have been used for fillers and these protrude one inch, to give thin shadow lines and to emphasize that they are panels. An interesting two-dimensional pattern has been thereby achieved.

Emphasizing the excellent integration of details, interiors, and furnishings with the structure and plan, this month's SELECTED DETAILS *and* INTERIOR DESIGN DATA *continue the UMMG presentation.*





Chairs on second floor (above) *are set against a background of bright royal blue. Terrazzo-like floors are asphalt tile.*

Glass-walled pharmacy (above right) *makes an attractive display at the entrance. It also can be seen from the outside. Fixtures were designed by the architects and fabricated by Lafayette Store Fixture Co., Inc.*

Laboratory (right) *is compact and efficient.*

critique by Frederick Gutheim

Near the beginning of a new human activity, an appropriate architectural form is usually found which establishes the type of building. Thereafter architects have few doubts concerning the way a department store or a railroad station, for example, should look. In the case of the movement toward preventive medicine, the architectural keynote was undoubtedly the Peckham Health Center in London. Here, in a building plan organized around a huge, eye-filling, health-giving swimming pool, a great social center and medical examining facility was developed: a concrete-and-glass structure which seemed to express perfectly the ideals and function of the new establishment. Yet, in retrospect, Peckham was less a health center than a social center. That is not the direction in which pay-as-you-go medical care in the United States is proceeding. We have elected a different path of health insurance and group medical practice. With or without Federal aid, that is the direction in which we are moving. Peckham does not point the way. Instead, the typical form of American health center has been found in the new clinic for the Upper Manhattan Medical Group.

In this colorful, fresh building one is entirely rid of the institutionality of the hospital, the impersonality of medical practice, the idea that design is controlled more by germs than by people, much less any overtone of socialism or collective action. In buildings of this type, pressure for low-maintenance materials and antiseptic routines has frequently moved down all possible deviation and preserved the indelible hospital atmosphere with its glary tile, glass, and enamel. Not so here! What has been achieved is a friendly building, domestic in scale, intimate in feeling, warm in expression; a reasonable building exhibiting a decent economy, but without hint that this has been done at any sacrifice of efficiency or medical values; a building that clearly puts people, their needs and comforts, uppermost. And it is a proud building in which modesty is unmarred by that phony, shiftless poor-mouthing in which ugliness is construed as related to economy rather than, as is the fact, to waste.

The building stands on a corner of a busy traffic street in a middle-class Harlem neighborhood. The site is relatively open to the south where it overlooks a playground. The exterior is formal, with little hint of the architectural satisfactions which lie within. Panels of matte brick, laid with close joints, fill in the exposed concrete frame. The principal street-front interest is a glass entrance composed of steel-casement doors and the plate glass window of the pharmacy. Beyond one glimpses a courtyard and a suggestion of colorful interiors.

The reception area is notably good. People walk in, check in, and find comfortable and attractive places in which to sit while waiting for their appointments. The furniture and lighting fixtures are gay and elegant. Colors are chosen carefully, and are positive. The circulation is easy and coherent, with a conspicuously good precast concrete stair. The building itself has little suggestion of special facilities for the sick, and most of the patients, of course, are not sick. They are concerned with staying well.

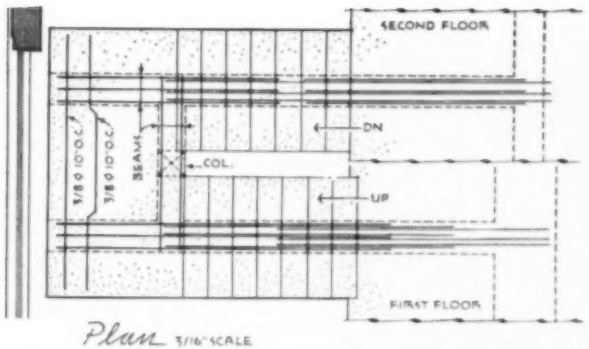
The entire plan can be easily understood from the reception area at the entrance. It is organized around a small, quiet central court, glassed on all four sides, and running through the two floors of the building. It is open to the sky and handsomely landscaped. Four principal waiting areas look onto this courtyard, as do several corridors. The outer perimeter of the plan is composed of treatment rooms and doctors' offices. These offer little out of the ordinary, except as efficient arrangements of examining rooms, laboratories, or other special rooms. (The building contains the smallest dental suites I have ever seen —but also one of the best waiting rooms.) Since many offices are used by several doctors they have an appearance of impersonality, but aside from this they would work well in any medical building.

The simplicity and clarity of this plan, achieved not without struggling for it, is counterbalanced by careful detailing and decoration. The combination holds the secret to the building's final character and atmosphere, the reason it appears to be a happy, well-functioning place, enjoyed by its occupants and those they serve. This well resolved building, with its careful plan and its excellent integration, provides a sound framework for a discreet yet significant scheme of decoration which completes the architect's intention in a thoughtful and sincere manner and expresses what is the fact: the architect's firm control over all elements in the building, his mastery of its creation, his responsibility for it.

This is one of thirty similar buildings now being erected under the Health Insurance Plan in New York City, and the only one to my knowledge of much architectural interest. It sets high standards, not only in its program and planning but also in its architecture. I believe these will be influential in all future buildings of this type.

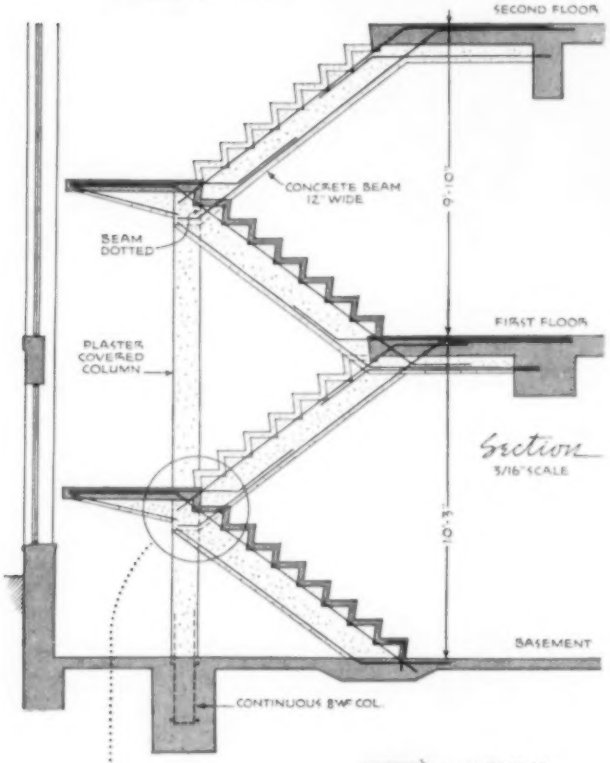
"The Hospital, gray, quiet, old, where Life and Death like friendly chafferers meet," has nothing whatever to do with the quality with which the architects have endowed Upper Manhattan. Here is a declaration of independence from past traditions of medical architecture, one that will exert powerful influence upon the flood of new facilities which health insurance and new developments in treatment and practice are creating.

clinic: stairs

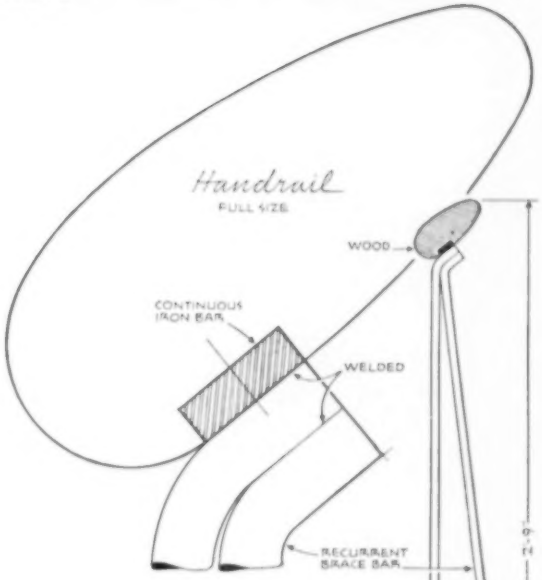


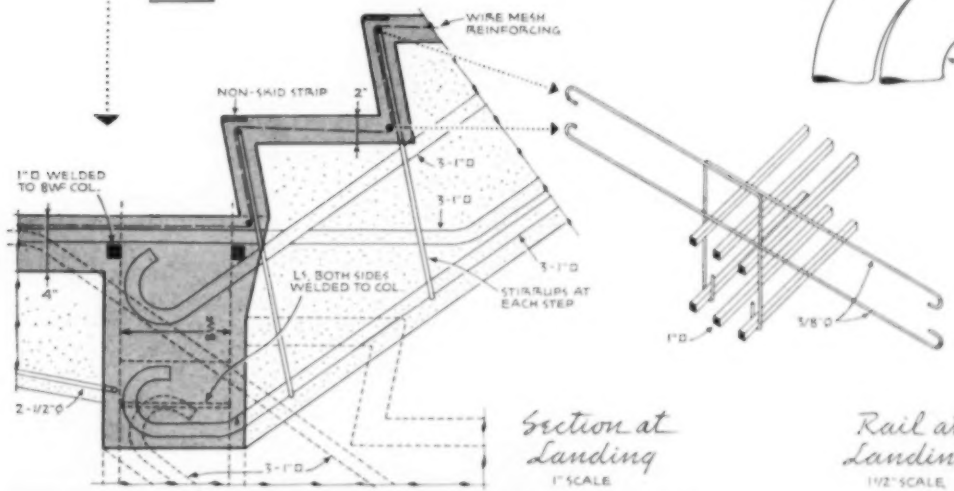
Plan 3/16" SCALE

LOUIS REENS

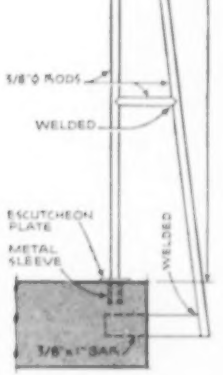


Section 3/16" SCALE





Section at Landing 1" SCALE

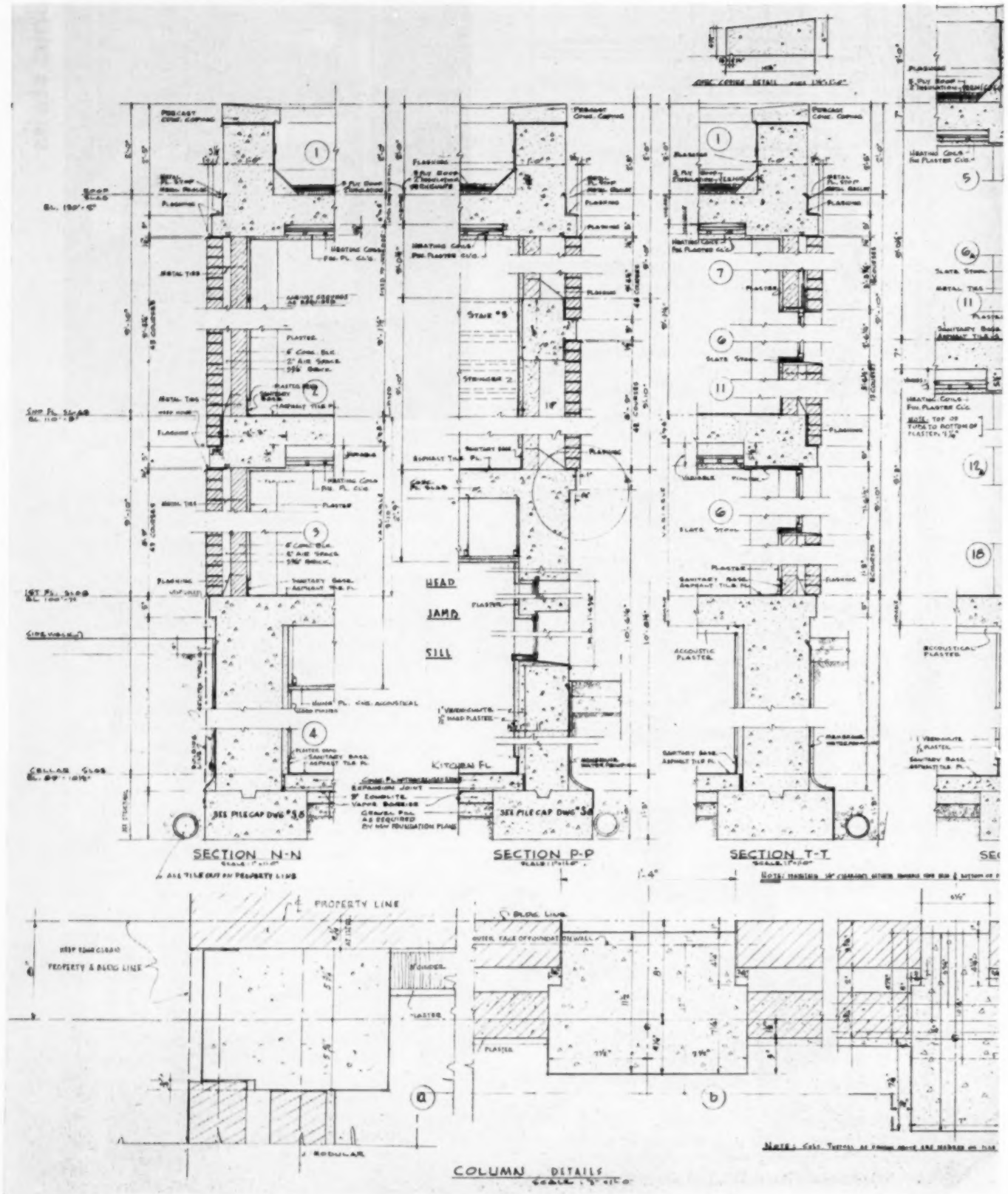


Rail at Landing 1 1/2" SCALE

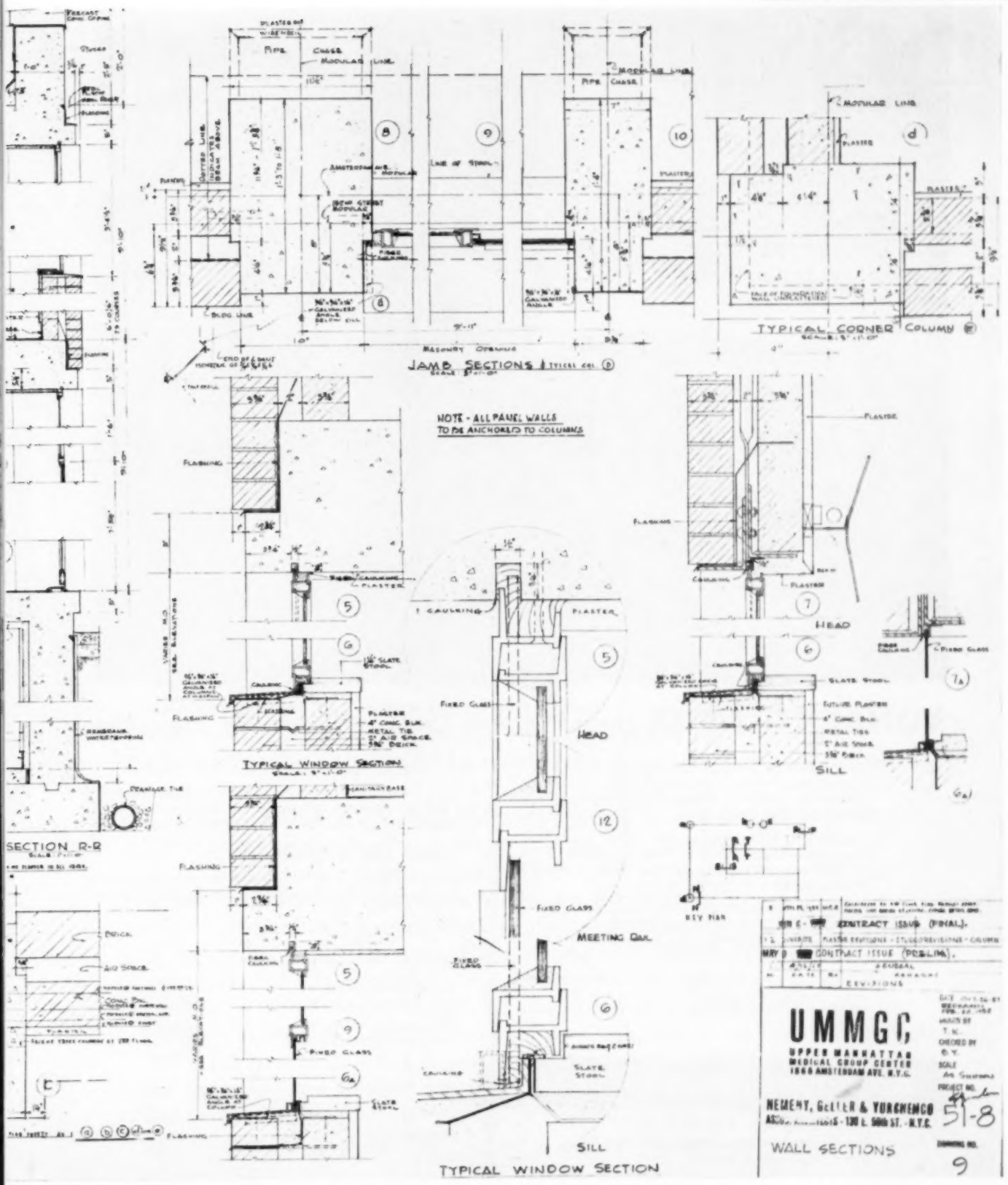
UPPER MANHATTAN MEDICAL GROUP CENTER, New York, N. Y.

George Nemeny, Abraham W. Geller, Basil Yurchenco, Associated Architects

health insurance plan clinic



wall sections: Upper Manhattan Medical Group Center, New York, N. Y.



George Nemeny, Abraham W. Geller, Basil Yurchenco, associated architects

CONDUCT-O-TILE Eliminates Main Causes of Anesthetic Explosions

Static explosion is one of the most feared of operating room hazards. New Conduct-O-Tile reduces this danger by dissipating dangerous charges of static electricity.

Conduct-O-Tile, a vitreous ceramic tile, is *permanently* conductive. It needs no waxing or other special treatment. There is no free carbon to bleed out and be tracked to other areas.

Conduct-O-Tile floors and A-O glazed tile walls are recommended for operating rooms, delivery rooms, adjoining corridors, and areas where anesthetics are stored.

For extreme sanitation, for beauty, low maintenance and long service in many other hospital areas, specify American-Olean wall and floor tile. It's real clay tile!

American-Olean Tile Co.

Executive Offices: Lansdale, Pennsylvania
Factories: Lansdale, Pennsylvania • Olean, New York
Member, Tile Council of America

TILE SPECIFICATIONS FOR THIS OPERATING ROOM:

Color Plate 330. Main Operating Room, Palmerton Hospital, Palmerton, Pa. Floor: Caneweave; Jet Conduct-O-Tile, Green Granite. Walls: 14 Spring Green. Cap and Base: 15 Sylvan Green.

SEND FOR COMPLETE TECHNICAL DATA

Details on product, installation methods in new construction as well as in remodeling, and full specifications. No obligation, of course.

AMERICAN-OLEAN TILE CO.
1027 Kenilworth Ave., Lansdale, Pa.

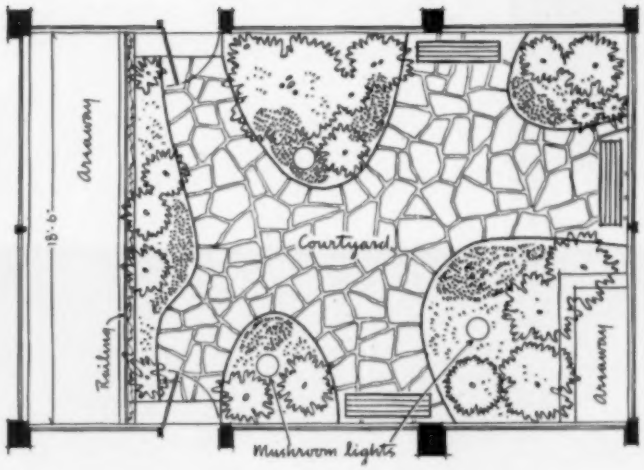
Please send me full information and free literature concerning Conduct-O-Tile.

Name.....

Company.....

Street Address.....

City.....*Zone*....*State*.....



p/a interior design data

associated architects	George Nemeny, Abraham W. Geller, Basil Yurchenco
interior furnishings	Integra
execution	Adson Builders, Incorporated

Uninterrupted areas of plain wall surfaces were painted in primary colors for purposes of identification of various sections and, in addition, to prevent any possibility of the building having a sterile, clinical appearance. In contrast, all of the furnishings and upholstery fabrics are in neutrals—gray, brown, black, and white—where used in conjunction with the strong wall colors. Further design theory dictated fabrics and materials of extreme durability, both for ease of maintenance and to achieve furnishings as free as possible from destruction, due to the more than average use.

Seating units were designed with integral tables, to avoid the leggy look of end tables used in combination with the seats.

Flooring in all public areas is black with white pattern; while conference or working areas have black on a white ground.

In the staff lounge and conference room there are small, high windows on one wall. The opposite wall has been painted white to reflect as much light as possible. Adjacent walls are either gray or black, neutral because they are used for changing art exhibits. Here the upholstery is brilliant—yellow, vermilion, turquoise blue, and blue-purple.

All areas have a brightness through the color of the wall areas or the furnishings, carefully combined with the subtlety of neutral colors. The fascinating theme is best shown by the color photograph on the following page, looking down into the paved garden court from which all rooms open.

PAGE BEAUCHAMP

p/a interior design data

health insurance plan clinic

Lobby data

furnishings and fabrics

Long Seat with Integral Tables: designed by Integra/ executed by Mamo & Seidentop, Inc., 403 E. 62 St., New York 21, N. Y./ **upholstery:** #V710 cerulean blue 096, "Algeria"/ Leather Guild, 52 E. 21 St., New York, N. Y./ #AC 2301 gray horsehair/ Arundell Clarke, 25 E. 73 St., New York, N. Y.

Seating Unit: designed by Integra/ executed by Mamo & Seidentop, Inc./ **upholstery:** #216/2, black "Viscott" cloth/ Isabel Scott Fabrics Corp., 17 E. 53 St., New York 22, N. Y.

Open Armchair: Finland House, 41 E. 50 St., New York, N. Y./ **upholstery:** #IG-56 vermilion "Fabrilite"/ Fabric Leather Corp., 16 W. 32 St., New York 1, N. Y.

Circular Coffee Table: #MT26/ 42" diameter/ Roman travertine top/ Fabry Associates, Inc., 6 E. 53 St., New York, N. Y.

Drapery: #2082 "Diffusion" cloth/ yellow/ Edwin Raphael Co., Central Ave., Holland, Mich.

Sculpture: Charles H. Alston, 556 Edgecombe Ave., New York, N. Y.

lighting

Globes: #B4260/ Lightolier, Inc., 11 E. 36 St., New York, N. Y.

walls, ceiling, flooring

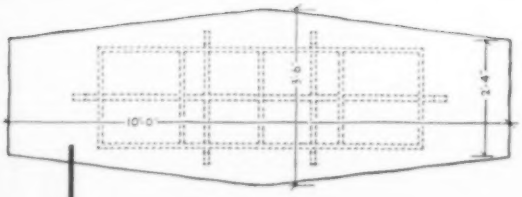
Walls: painted plaster/ paint/ Martin-Senour Co., 9 E. 56 St., New York, N. Y.

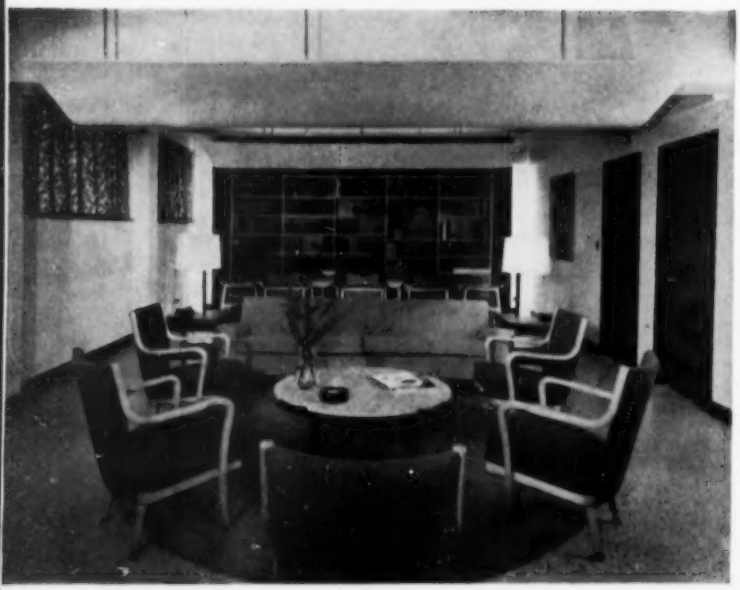
Ceiling: plaster/ U. S. Gypsum Co., 300 W. Adams St., Chicago 6, Ill.

Flooring: "Confetti"/ color #S609/ Mastic Tile Corp., North Montgomery St., Newburgh, N. Y.

Photos: Louis A. Reens

health insurance plan clinic





Staff Lounge, Conference Room

data

cabinetwork

Bookcase: designed by Integra/ executed by Multiflex Corp., 666 Fifth Ave., New York 19, N. Y.

furnishings and fabrics

Open Armchairs: Finland House/ **upholstery:** #9-057, purple/ Herman Miller Furniture Co., One Park Ave., New York, N. Y./ #K510/10 transportation cloth, red/ Knoll Associates, Inc., 575 Madison Ave., New York, N. Y.

Coffee Table: #MT26/ 42" diameter/ Roman travertine top/ Fabry Associates, Inc., 6 E. 53 St., New York, N. Y.

Sofa: #U190/ Jens Risom Design, Inc. 49 E. 53 St., New York, N. Y.

End Tables: #T-490/ walnut/ Jens Risom Design, Inc.

Conference Table: designed by Integra/ executed by Multiflex Corp.

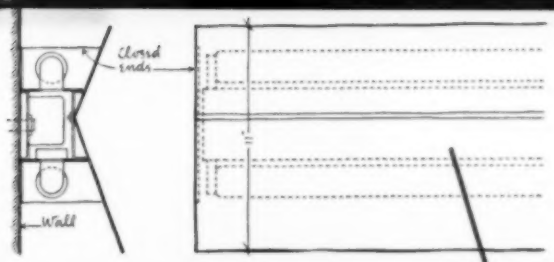
Conference Chairs: #132/ natural beech/ **upholstery:** #1045/25 GS, blue-green/ John Stuart, Inc., Fourth Ave. & 32 St., New York 16, N. Y.

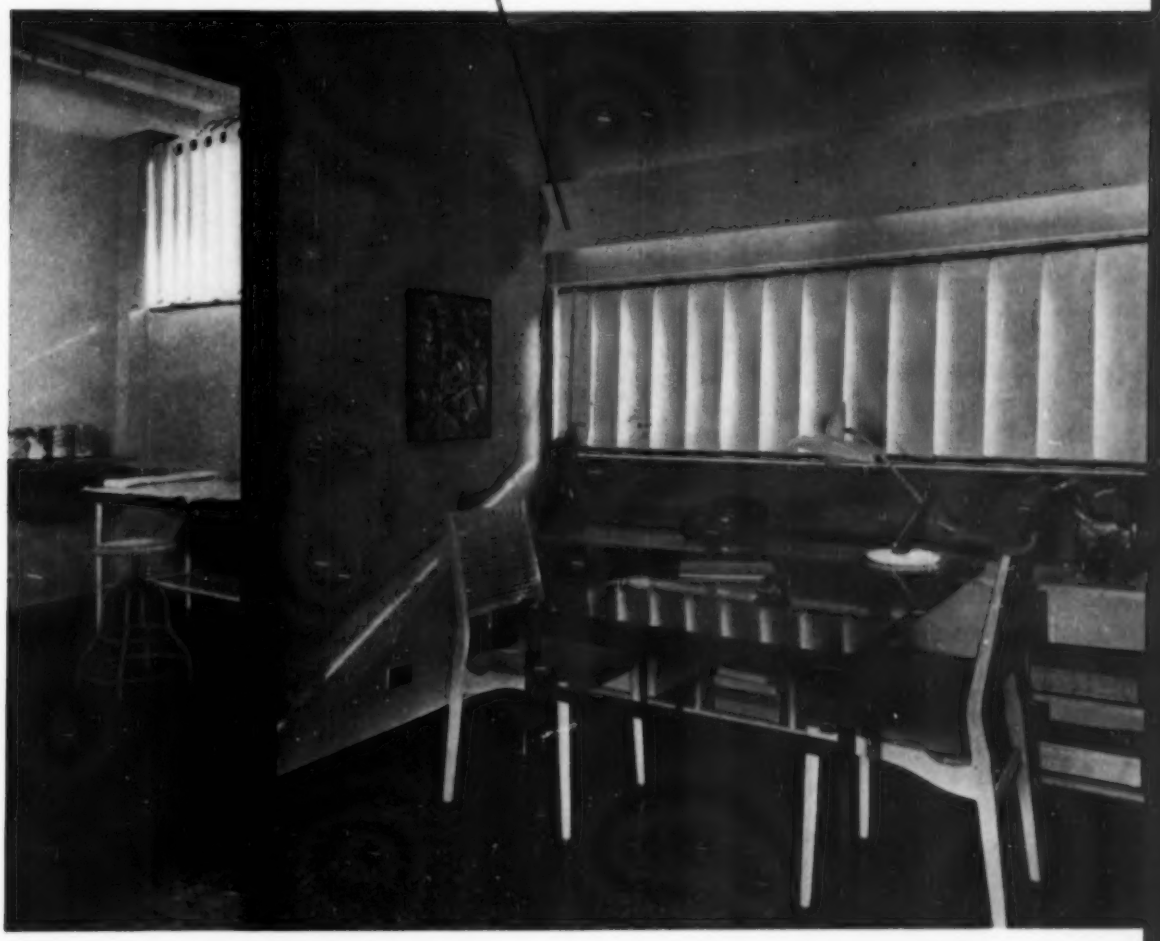
Drapery: #3-553, "Small Squares"/ Herman Miller Furniture Co.

lighting

Ceiling Fixture: designed by architects/ executed by Fulton Heating & Ventilating Corp., 625 Hudson St., New York, N. Y.

Lamps: black and white Micarta, Abaca cloth shades/ Berrier-Gnazzo Designers, 206 E. 49 St., New York, N. Y.





Waiting Room

data

furnishings and fabrics

Desk: #SO-131/ teak top, beech frame/ Swedish Modern Inc., 675 Fifth Ave., New York, N. Y.

Chairs: Finland House/ **upholstery:** #2075, "Correlation," black sand/ Edwin Raphael.

Seating Unit: with integral table/ designed by Integra/ executed by Mamo & Seidentop, Inc./ **upholstery:** seat, #IG-56, vermilion "Fabrilite"/ Fabric Leather Corp./ back rest, #AC 2391, gray horsehair/ Arundell Clarke.

Consulting Room

data

cabinetwork

Wall Cabinet: designed by Integra/ executed by Multiflex Corp.

furnishings and fabrics

Desk: #T3048/ top, Realwood Formica, walnut, metal leg frame/ Lehigh Furniture Corp., 16 E. 53 St., New York 22, N. Y.

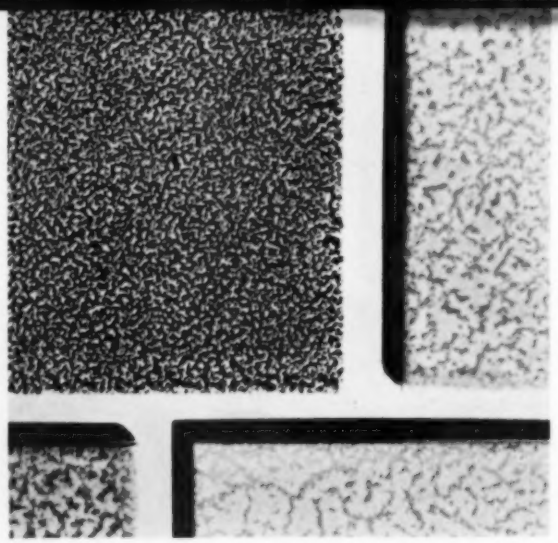
Chairs: Finland House/ **upholstery:** #2072, "Correlation," yellow sand/ Edwin Raphael.

Blinds: Thru-Vu Vertical Blind Co., P. O. Box 266, New York, N. Y.

lighting

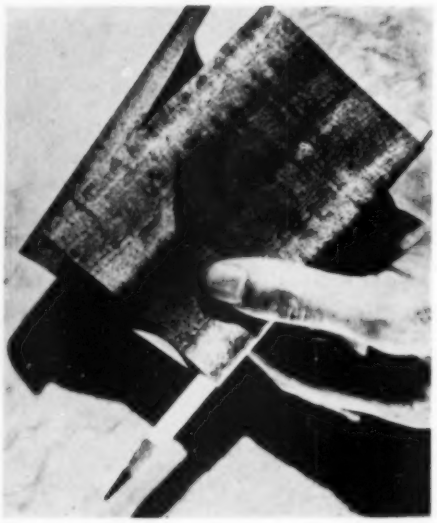
Wall Fixture: designed by architect/ executed by Lightolier, Inc.

p/a interior design products



Carpet: "Carlton"/ cut-pile, tufted cotton/ colors Sandalwood, Spray Green, Pearl Gray, Cinnamon, Forest Green, Beige/ available in 9' and 12' widths/ treated with "Resistol," patented finishing process to retard normal soiling/ **retail:** $4.95 a sq. yd./ **A. & M. Karagheusian, Inc., 295 Fifth Ave., New York 16, N. Y.**

Ceramic Floor Tile: "Duraflor"/available in twelve colors to harmonize with "Gloss Tone" wall tiles/ 4¼" squares and 3" hexagonal patterns/ crystalline texture, designed to reduce slipping, breaks color glaze into unstudied pattern/ **Royal Tile Mfg. Co., Fort Worth, Tex.**



Carpet Cushion: "Cushion De Luxe"/ sponge rubber with fiber tensile topping/ ¼" thick/ available in 36" and 56" widths in rolls of 20 linear yards/ **retail:** $2.25 a sq. yd./ **United States Rubber Company, Rockefeller Center, New York 20, N. Y.**

Hardwood Veneer: "Randomwood"/ 1/85" thick veneer, laminated to cotton backing/ may be used on curved surfaces, applied similar to wallpaper/ does not need molding, nails, or screws/ when applied to incombustible backing meets Federal Specification for incombustible wall covering/ may be applied to any hard, smooth, dry surface/ **United States Plywood Corp. and The Mengel Corp., 55 W. 44 St., New York 36, N. Y.**

Vina-Lux® floors make high style good business

Businesses that meet the public know the value of attractive floors. That is why so many are finding Vina-Lux, America's leading vinyl-asbestos tile, the best answer to their flooring problems.

Vina-Lux has everything that shop and office areas need, from a flooring standpoint. Its broad line of sparkling up-to-the-minute colors makes possible any decorative plan — its super-smooth surface needs no waxing and makes cleaning easy and inexpensive. Its vinyl-asbestos structure has remarkable resistance to chemical abuses of all kinds whether they be from food fats, petroleum oils or alkalis. Vina-Lux gives you years of added wear because it's tougher and denser — less susceptible to the grinding action of abrasive foot traffic.

Longer life, lower maintenance cost, more beauty — you get all these at moderate cost. Write today and ask us to have a qualified representative present the full Vina-Lux story to you.

Vina-Lux®

REINFORCED VINYL TILE

AZROCK PRODUCTS DIVISION • UVALDE ROCK ASPHALT CO.
FROST BANK BUILDING • SAN ANTONIO, TEXAS
MAKERS OF VINA-LUX • AZROCK • DURACO • AZPHLEX

New vinyl Bolta-Wall

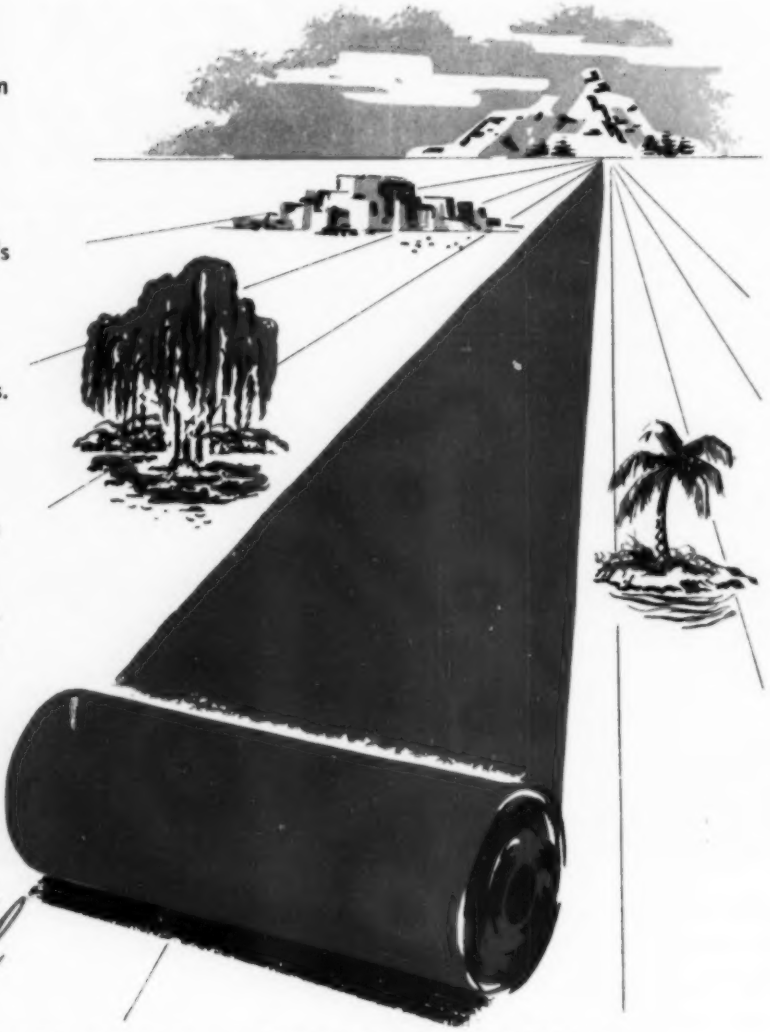
GEORAMA GROUP

From nature herself came the Georama colors. We got green from the bayous, blue from the high Sierras, coral from the atolls, grey from the distant plateaus . . . solid colors . . . cool colors . . . rich pastels keyed to modern living.

New Georama is magnificent for walls in homes, offices and institutions. It has a pleasant-feeling texture, but color is the keynote.

Hundreds of hues were checked with consumers and decorators and wall-covering experts coast to coast. The natural pastel shades that stood the test fit perfectly with modern decorating trends.

You have to see and feel Georama to appreciate it. Samples are ready for you. Just mail the coupon today.



Bolta-Wall

BOLTA PRODUCTS, Box 543, Lawrence, Mass., *A Division of The General Tire & Rubber Co.*

In New York City, 101 Park Ave.

NATIONALLY ADVERTISED BOLTA-WALL FEATURES

- rugged; lasts for years
- wipes clean with a damp, soapy cloth
- resists fading, staining, scuffing
- will not crack
- goes over most old or new walls easily
- is fire-retardant; meets Federal specifications

☐ Please send Free samples of the following Bolta-Wall patterns:

- ☐ Leathergrain
- ☐ Mahogany
- ☐ Bamboo
- ☐ Georama Group

☐ Please send Installation Specifications

NAME .....

COMPANY .....

ADDRESS .....

.....

p/a interior design products

Chair: wrought iron/ finished for use indoors or outdoors/ designed with curved back for use in corners/ **retail:** $19.95/ manufactured by Ironmasters, Brooklyn, N. Y./ **designed by Kim Hoffman & Stephen Heidrich, 139 E. 57 St., New York, N. Y.**

Furniture Group: 17 pieces for bedroom, dining room, and living room/ beds styled for contour-type bedding, night tables have electrical outlets, dining table increases size with integral leaf, drawer space may be tailored/ walnut and satin-finish brass, interiors of oak/ louvers act as hand grip/ drawers available in 1¾", 4½", and 6¾" depths/ cases 30" high, 20" deep; bases 36", 54", 72" long; legs, 6" back of legs of black-finished steel, recessed to clear baseboards/ designed by Julian von der Lancken, Oliver Lundquist, and Abels Sorensen/ manufactured by Pine & Baker/ **M. Fireman & Company, 667 Madison Ave., New York 21, N. Y.**

Designed by Ralph Kelman, Dallas, Texas.

Divide space by decorating ...with Glass!

When you design a partition of Blue Ridge *Patterned Glass*, you give decorative beauty to the room on each side.

Each decorates the other *through the glass* with a blending of light, colors and shapes. There's decorative harmony, for Blue Ridge *Patterned Glass* is neutral in tone, goes well with other materials of any color. And there is privacy.

Blue Ridge *Patterned Glass* offers distinction to many types of buildings in many ways. Use it for a partition like this . . . for built-in furniture . . . as a window to shut out an unwanted view . . . to bring light into entrance halls.

This lovely glass is not expensive. It is easy to install. It eliminates painting and papering. Sparkling Blue Ridge beauty is built in . . . to last.

You can choose from many patterns . . . linear, checkered and over-all designs in plain, textured or *Satinol*® finishes.

Ask your L·O·F Glass Distributor or Dealer to show you Blue Ridge samples. Look for his name in the yellow pages of your phone book, under "Glass".

BLUE RIDGE
Patterned GLASS

IDEAS FOR DESIGN. 42 for homes, 76 for other buildings. Two books show how leading architects and decorators have used this versatile glass.

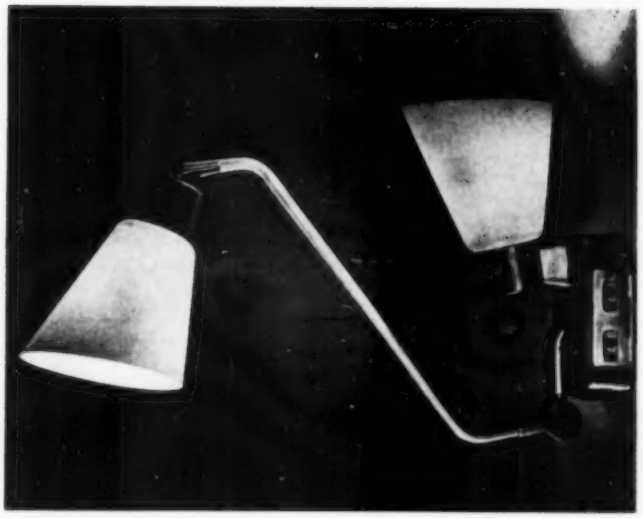
Libbey·Owens·Ford Glass Company. Dept. B-974
608 Madison Ave., Toledo 3, Ohio

Please send me your two idea books:
Patterned Glass for Modernization in commercial buildings;
New Adventures in Decorating for residences.

Name (please print) _____

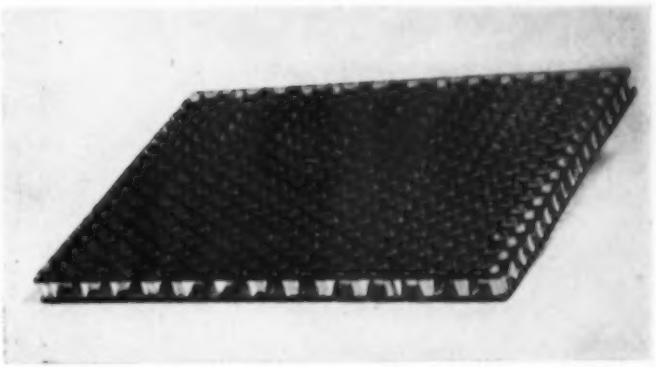
Street _____

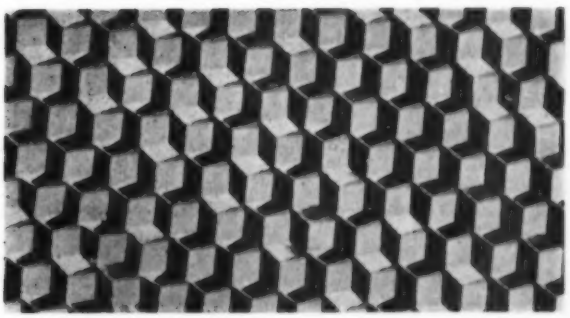
City _____ Zone ____ State _____



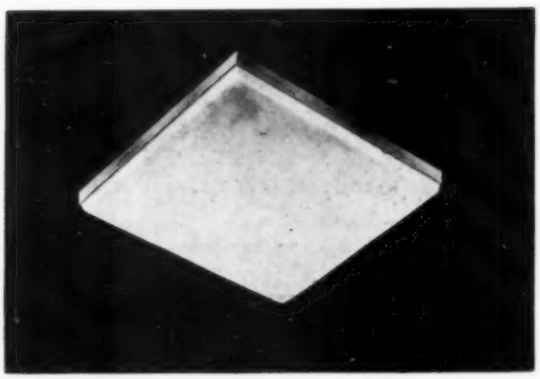
Hospital Light: "Hospitality Light"/ combines indirect general illumination, reading light, examination light, night light, direct over-bed light, and electrical outlets/ "plug in" installation in one outlet/ **Kurt Versen Company, 4 Slocum Ave., Englewood, N. J.**

Glass-Aluminum Honeycomb Sandwich: "Hexcelite"/ bonding of Hexcel structural aluminum with standard window glass/ admits diffused light/ variety of colors available through addition of dye to bonding resin/ lighter and stronger than solid glass/ manufactured by California Reinforced Plastics Company/ **Hexcel Products Company, 955 61 St., Oakland 8, Calif.**





Ceiling Fixture: 4' square "Optiplex"/ hinged white diffuser of Plexiglas in baked enameled steel assembly/ lamp and chassis completely enclosed/ diffuser extends 2" below housing/ available for stem, surface, or recessed mounting/ **Lightolier, Inc., 11 E. 36 St., New York, N. Y.**

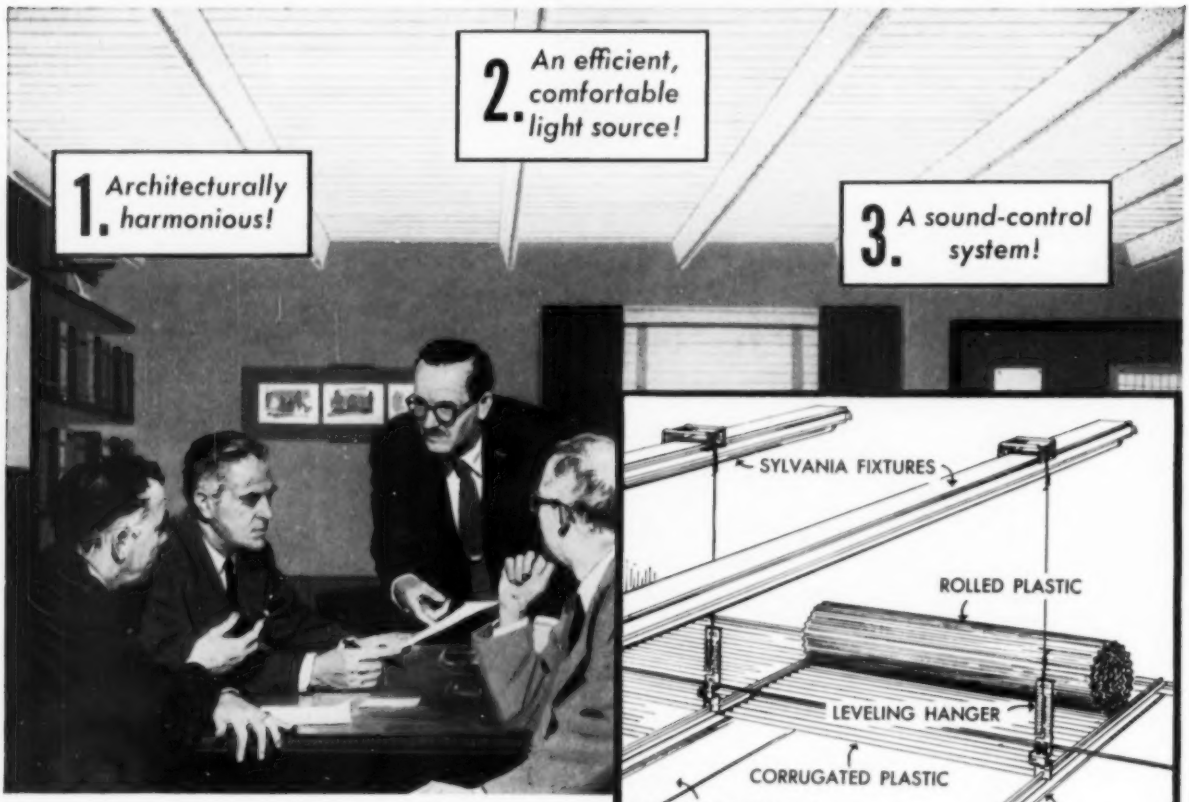


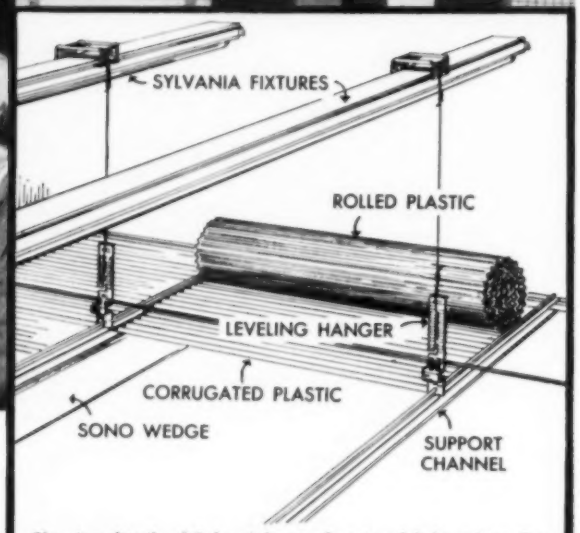
Aluminum Honeycomb Lighting System: "Honeylite"/ may be used on lighting fixtures or in overall ceiling installation/ provides uniform lighting, eliminates need for additional acoustical treatment/ conceals overhead pipes, sprinkler heads, and air plenems/ fireproof/ standard size of honeycomb is ¼"/ **retail:** $1.25 a sq. ft./ **Honeylite Company, 576 W. Grand Ave., Oakland, Calif.**

Another Sylvania Achievement

SYLVAN-AIRE

A three-way functional treatment of beauty — sight — sound





Showing details of Sylvania's new functional Sylvan-Aire. For ease and economy of installation, wire supports shown here are attached to lighting fixtures instead of structural ceiling.

Adaptable! Easily Installed! Economical!

You never saw a more fascinating or a more functional system of sight and sound control! It's engineered by Sylvania to serve 3 ways!

1st ... it has the beauty and character of continuous corrugated white plastic.

2nd ... it is a source of soft, eye-pleasing over-all lighting.

3rd ... its inconspicuous V-shaped "Sono-Wedges," lined with thick glass-fiber pads, deaden noise ... reduce distracting sound to comfortable levels.

In addition, the corrugated form of the plastic permits air to circulate along the supporting channels. Thus *air-conditioning* also can be effectively introduced.

Flexible in Design!

Sylvan-Aire's light weight and flexibility of design permit it to be readily and economically installed in any conference room, office or working area. Be sure to remind your electrical contractor friends about this latest Sylvania achievement. For full details write today to Dept. 4X-4307 at Sylvania.

QUALIFIED LIGHTING CONTRACTOR SYLVANIA

Look for this emblem— your guide to a Qualified Lighting Contractor.

SYLVANIA

Sylvania Electric Products Inc., 1740 Broadway, N.Y. 19, N.Y.

In Canada: Sylvania Electric (Canada) Ltd., University Tower Bldg., St. Catherine Street, Montreal, P. Q.

LIGHTING · RADIO · ELECTRONICS · TELEVISION

Design Refinement: "Streamliner Series" metal desks/ nylon glides on box drawers, progressive suspension slides for filing drawer, sound insulation in pedestals and back/ new style pedestal available in six colors/ **The Globe-Wernicke Co., Ross & Carthage Aves., Cincinnati 12, Ohio.**

Metal Desks: "Generalaire"/ modular steel sections may be used in various combinations, creating 45 models for all office requirements/ top covered with noise-reducing Velvoleum writing surface/ corners have rolled edges for working comfort and safety/ aluminum drawer pulls extend full width of drawers/ legs of satin-finish aluminum/ **The General Fireproofing Company, Youngstown 1, Ohio.**

Vinyl Upholstery: 25 oz. knit-backed plastic/ burnished antique finish resembles leather/ colors: red, green, lime, brown, gray, and saddle tan/ 52" width/ **retail:** $1.67 a yd./ **Goodall Fabrics Inc., 525 Madison Ave., New York 22, N. Y.**

Vinyl Wall Covering: "Georama"/ leather-like embossing on solid color material/ colors: Aquamarine, Plateau Gray, Bayou Green, Sierra Blue, Reef Coral/ may be cleaned by washing, needs no refinishing, applied as wallpaper is/ seams virtually invisible/ **Bolta Corp., 151 Canal St., Lawrence, Mass.**

Hammered Metal Finish: "Rigid-Tex"/ hand-hammered effect in nondirectional, nongeometric pattern/ effective on stainless steel, copper, brass, aluminum/ for use in panels for room dividers or as wall finish/ **Rigidized Metals Corporation, 658 Ohio St., Buffalo 3, N. Y.**

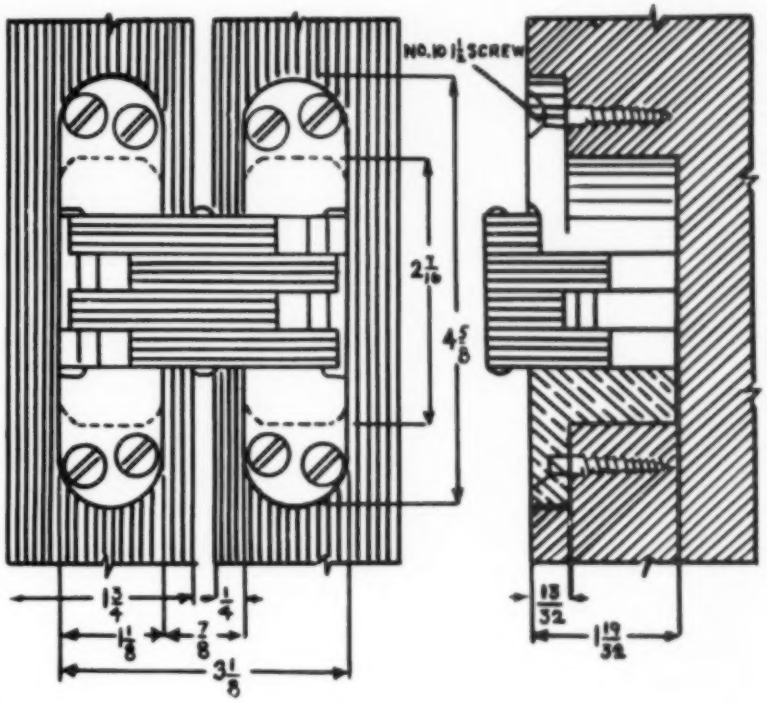
Power Unit for Opening and Closing Traverse Draperies: "Electro-Traverse"/ plugs into wall outlet/ may be operated by push button remote control or attached to time clock operation/ 6" x 7" x 4⅜"/ **Electro-Traverse Corp., 1011 South Western Ave., Los Angeles 6, Calif.**

Chair and Ottoman: "Indoor-Outdoor"/ square tube steel frames finished in dull "Black Satin" baked enamel, phosphatized against rust and corrosion/ upholstery of sling type on seats and back/ back adjusts to various seating positions/ designed for use in hospitals, commercial installations, and in residences/ **Cousins, Inc., 4534 Main St., Kansas City, Mo.**

Reed-and-Metal Occasional Furniture: "Domus"/ woven-reed on wrought-iron frames/ chaise, side chair, lounge chair, love seat, bar stool/ **Ben Seibel Associates, 14 Barrow St., New York, N. Y.**

New "Bubble Lamp" Shape: #737, #767, #728/ squared silhouette with slight inward bow in middle/ steel and hard-drawn steel wire frame, oversheaths of translucent, resilient white plastic/ designed by George Nelson/ manufactured by Howard Miller Clock Co., Zeeland, Mich./ **Richards Morgenthau, 225 Fifth Ave., New York, N. Y.**

Warm Air Baseboards: "Imperial," "Classic," "Classic, Jr."/ for perimeter heating/ built-in air flow control for finger-tip adjustment/ single-piece enclosure for back panel designed to prevent heat leakage and eliminate sponge rubber seals, rubber gaskets/ occupy same space as wooden baseboards/ **Vectaire Manufacturing Co., Melrose, Mass.**



Invisible Hinge: hinge is completely hidden from view when doors or lids are closed/ beautifies, streamlines interiors/ ideal for contemporary architecture/ special rust-proof alloy/ gives excellent service under all climatic conditions/ easy to install/ pleasing to clients/ available in wide variety of sizes/ catalogue free on request/ **Soss Manufacturing Company, 21715 Hoover Road, Detroit 13, Mich.**

Alcoa Building, modern home office of the Aluminum Company of America, Pittsburgh, Pa., was designed by Architects Harrison and Abramovitz, New York, N. Y.

Washrooms of another notable building finished in Carrara Glass

● Over and over again leading architects turn to Carrara Structural Glass when it comes to the specification of a wall finishing material for washrooms in important new buildings. And Carrara Glass has many outstanding qualities which make it worthy of this architectural selection.

CARRARA GLASS IS:

True Glass of the finest quality. Every piece is mechanically ground and polished. It permits joints that are true and even, without lippage or warpage.

Beautiful. Available in ten lovely colors, gleaming Carrara Glass adds a note of distinction and dignity to every building in which it is used.

Permanent. Its smooth, homogeneous surface is unaffected by moisture, soap, damp atmospheres, and pencil marks. Carrara won't check, craze, stain or fade; it won't absorb odors.

Sanitary. Because Carrara is installed in large sections, it has fewer joints and crevices to catch dirt and dust. Its smooth, highly polished finish is easy to keep clean; an occasional wiping with a damp cloth is all that's required.

Additional information on Carrara is available from Pittsburgh Plate Glass Company, Room 4258, 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.

Carrara ... the quality structural glass

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

★ *Editor's Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

air and temperature control

1-92. Automatic Anthracite Equipment for the Home, 40-p. booklet prepared in connection with first Anthracite Industry Domestic Equipment Show. Included are major factors affecting choice of fuel and heating equipment; description of various types of conversion, boiler-burner, crossfeed, integral, and furnace-burner units available for automatic domestic heating; description of operation of newly developed automatic ash removal systems; year-round air conditioning; and examples of application of modern anthracite domestic equipment. Photos, tables of capacities. Anthracite Information Bureau, 380 Madison Ave., New York 17, N. Y.

1-93. Kno-Draft Ceiling Air Diffusers (KH-76), 16-p. booklet on ceiling air diffusers for residential heating and cooling. Diffuser selector tables, suggested systems, duct layouts, installation details, lighting fixture combination and adaptation, typical interior views, and diagrams. Connor Engineering Corp., Danbury, Conn.

1-94. Tune in With the Weather (540), 16-p. brochure describing high-vacuum steam heating system with single-dial control of heat output for new or existing multiroom applications—schools, hospitals, churches, apartments, offices, and commercial buildings. Engineering data on component parts, typical arrangement of system, performance data, typical installations, and suggested specifications. Photos and charts. Illinois Engineering Co., 2035 S. Racine Ave., Chicago 8, Ill.

1-95. Royal Jet System (SA-RJS), 4-p. pamphlet explaining ductless forced-air heating system for residential installation. Floor plans showing air flow, description of system and parts, installation details, framing dimensions, and Btu input of various models. Royal Jet Inc., Alhambra, Calif.

1-96. Sterling Finmaster, AIA 30-C-4 (601), 28-p. catalog giving ratings, dimensions, and specifications for line of finned-tube radiators. Information on available covers, installation data, dimensional drawings for sloping top installations using hangers or support brackets, design data for steam and hot-water systems including pipe sizing and layouts. Photos, charts, and drawings. Sterling Radiator Co., Inc., Westfield, Mass.

1-97. Thermaflex: A Complete New Line of Flexible Ducting (C-1-6), 4-p. booklet with enclosed 4-p. engineering data folder containing information on insulated reinforced duct designed for main line run-outs in both high- and low-pressure air-conditioning systems. High-pressure duct constructed of galvanized-steel wire helix with 3-ply laminate of woven glass fiber and thin metallic sheets; low-pressure type made of galvanized soft iron wire helix with 2-ply covering reinforced with glass-fiber cord. Construction features, cutaway drawings, test results, air friction chart, and other data. Flexible Tubing Corp., Guilford, Conn.

1-98. Westinghouse Precipitron (B-5179), 4-p. bulletin describing ceiling-suspended electrostatic air cleaner and illustrating installation of unit in cold-air return duct of conventional warm-air heating system in either horizontal or vertical position. List of necessary service and utility connections, features of floor unit for larger houses up to 12 or more rooms. Westinghouse Electric Corp., 200 Readville St., Hyde Park, Boston 36, Mass.

construction

★ **Four folders containing detail drawings obtained from architects and fabricating subcontractors showing aluminum exterior wall facing of Fort Couch School, Pittsburgh; Tishman Building, New York City; Bradford Hospital, Bradford, Pa.; and the Wyatt Building, Washington, D. C. Photos and suggested outline specifications included with drawings. Aluminum Company of America, 1501 Alcoa Bldg., Pittsburgh 19, Pa.:**

2-105. 99 Park Avenue, AIA 17-A (100-1)

2-106. Wyatt Building, AIA 17-A (100-2)

2-107. Bradford Hospital, AIA 17-A (100-3)

2-108. Fort Couch School, AIA 17-A (100-4)

2-109. V-Corr Industrial Roofing and Sidings, 8-p. brochure describing uses of enamel-on-steel roofing and siding material. Details of steel sheets and flashings, charts giving size of purlins for various spacing of trusses, approximate net weights, and recommended purlin and girt spacings. Photos showing installations, recommended method of fastening sheets to steel frame. The Toledo Porcelain Enamel Products Co., 2275 Smead Ave., Toledo, Ohio.

★ **2-110. Cofar Product Manual, AIA 4-E-4** (BCo-541), 29-p. brochure on concrete floor system consisting of steel sheets—for use as main positive reinforcement and slab forms—and transverse wires welded across corrugations—providing temperature reinforcement and mechanical anchorage. Use of system with steel or concrete frame or load-bearing walls, construction advantages, photos of projects using system, installation data, detail drawings, selection tables, and specifications. Granco Steel Products Co., Granite City, Ill.

2-111. Ing-Rich Porcel Panels (1053), 4-p. booklet giving data on various types of insulated, enamel-on-steel panels for curtain wall construction. Description of types, colors, and finishes; detail drawings showing typical installation methods; examples of applications. Ingram-Richardson Mfg. Co., Beaver Falls, Pa.

2-112. Permanente Dolomite White Roofing Granules, AIA 12-B-1, 4-p. folder describing properties of crystalline dolomite roofing granules available in regular (3/16" x 1/8") and large (1/2" x 1/4") sizes. Information on durability, heat- and light-reflectivity, and application; comparative properties of dolomite, diamond, calcite, and quartz. Kaiser Aluminum & Chemical

(Continued on page 141)

PROGRESSIVE ARCHITECTURE, 330 W. 42nd Street, New York 36, N. Y. I should like a copy of each piece of Manufacturers' Literature circled.

1-92	2-106	3-85	4-71
1-93	2-107	3-86	4-72
1-94	2-108	3-87	6-32
1-95	2-109	3-88	6-33
1-96	2-110	3-89	7-26
1-97	2-111	3-90	9-38
1-98	2-112	4-69	9-39
2-105	2-113	4-70	

Name

Position

Firm

Mailing Address ☐ Home ☐ Business

City State

please print

(To obtain literature, coupon must be used by 9/1/54. We request students to send their inquiries directly to the manufacturers.)

Get
this report...
on the

BIG TRUTH

about boilers

Out of 86 years of experience in designing and building quality steam generating equipment comes one of the most revealing reports ever written on boilers. We at Kewanee make that statement because these findings are based on fact and truth . . . on careful search and engineering exploration. In it we present:

KEWANEE
RESERVE PLUS RATING

Here you will discover a way to judge boilers so you can be sure of the lowest operating cost—highest efficiency—greatest dependability—maximum flexibility—longer boiler life. You will learn how to eliminate confusion in considering boilers . . . know how to compare like examples and not be misled by vague technical claims. You can be SURE you have made the best buy when you know the BIG TRUTH about boilers . . . and you will choose Kewanee boilers because you know you will save on fuel—get greater efficiency—cut repair bills.

YOU can depend on KEWANEE engineering

KEWANEE-ROSS CORPORATION—Kewanee, Illinois
Division of American Radiator & Standard Sanitary Corp.

Serving home and industry • **American-Standard** • **American Blower** **Church Seats & Wall Tile** • **Detroit Controls** • **Kewanee Boilers** **Ross Exchangers** • **Sunbeam Air Conditioners**

THE KEWANEE
REPORT **TELLS ALL . . .**

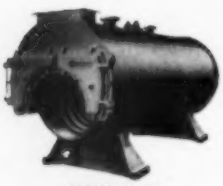
How to cut fuel costs.

Data on "cruising speed" savings.

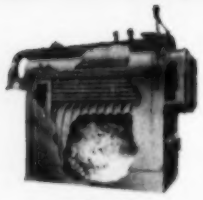
Facts on "nominal capacity" operation.

Why Kewanee Reserve Plus is the safe way to rate steel boilers.

Facts on fallacy of buying on "maximum capacity."



KEWANEE
M-800 SERIES



KEWANEE
TYPE "C" SERIES

DISCOVER THE BIG TRUTH ABOUT BOILERS

Send for this free booklet. You will be glad for 20 years if you act today. Use handy coupon.

KEWANEE-ROSS CORPORATION—Kewanee, Ill.
Please send me free book titled, "A REPORT to Those Concerned with the SPECIFICATION, SELECTION, SALE, of Steel Boilers"

Name _____

Title _____

Company _____

Address _____ **City** _____ **State** _____

PA

Corp., Chemical Div., 1924 Broadway, Oakland 12, Calif.

2-113. Metropolitan Ceramic Glazed Structural Facing Tile, AIA 10-B (GT531), 32-p. catalog with construction details and estimating data for ceramic glazed structural facing tile, including 12 pages of shape drawings of nominal 5⅓" x 8" and 5⅓" x 12" face units. Detailed wall drawings with unit numbers, light reflection values for various applications, color chart, installation photos, brick-tile coursing table, and specifications. Metropolitan Brick, Inc., 1017 Renkert Bldg., Canton 2, Ohio.

doors and windows

3-85. Cipco Builders Hardware. AIA 27-B (53), 80-p. catalog showing latest developments and standard designs in various types of hardware available in aluminum, brass, bronze, or stainless steel. Illustrations of all types of door hardware, sash lifts, drawer pulls, lavatory hardware, name and letter box plates, and fasteners. Details for push and pull bars and offset brackets. Dimensions, weights, index, U. S. Government numbers. Cipco Corp., St. Louis 6, Mo.

3-86. Extendoor: the Smoother, Quieter Folding Door, AIA 16-M (101), 8-p. booklet listing features of accordion-type folding door available in variety of fabrics, colors, and textures. Applications (single door, double door, or both ends movable), photos of installations, illustrated methods of installation, description of mechanical accessories and hardware, opening sizes, and specifications. Extendoor, Inc., Muskegon, Mich.

3-87. Distinctive Beauty, Practical Simplicity, Dramatic Economy, 4-p. brochure describing sliding glass doorwall with vertical lines of aluminum on blonde hardwood ash frame. Description of packaging feature, assembly, and installation; dimensions; head, sill, and jamb details; photos of installations. Horizon Door Co., 1426 Flower St., Glendale 1, Calif.

3-88. Revolving Doors and Packaged Entrances: 1954 Catalog, AIA 16-G, 24-p. catalog containing illustrations, detailed drawings, and specifications for line of revolving doors—both standard and custom designs, new line of swing doors, and packaged entrances comprising doors and necessary sidelights, transoms, and connecting work. Also, design data, selection factors, specifications, question-and-answer section, and photos of installations. International Steel Co., Evansville, Ind.

3-89. Kinnear Rolling Doors, AIA 16-D (79), 32-p. catalog with detailed data on steel rolling service doors, fire doors and shutters, bifold doors, steel or wood sectional overhead doors, steel rolling grills, special doors, and counter closures. Sizes, types of mounting, methods of operation, construction features, detailed and cutaway drawings, photos, and specifications. The Kinnear Mfg. Co., Columbus 16, Ohio.

(Continued from page 139)

3-90. Pella Wood Casement Windows, Multi-Purpose Windows (W-54), 16-p. brochure outlining construction features of line of wood windows. Specifications, table of sizes, illustrations, and installation details for casements; specifications, suggested window groupings, and table of sizes for multipurpose units which can be used as basement, casement, awning, or hopper vent windows. Photos of installations. Rolscreen Co., Pella, Iowa.

electrical equipment, lighting

4-69. Advanced Eliptisquare, AIA 31-F-2 (254), 4-p. bulletin on recessed lighting fixture with clear prismatic glass lens, projecting below face trim to provide edge light on ceiling, reflector with figurated aluminum reflecting surface, and horizontal lamp. Sizes, finishes, available frames, candlepower distribution curves,

(Continued on page 142)

Permanent Efficiency!

SILVERED-MIRRORED PERMAFLECTORS

UP TO DOUBLE the footcandles with standard lamps! That's the performance record of silver-mirrored Permaflectors. This amazing efficiency more than pays for the equipment cost in a short time . . . and continues to pay dividends in lower operating costs. Whatever the wattage, or the job—a Permaflector does it best!

1 Crystal glass, made in our own glass division, is clear, sparkling, uniform, flaw free.

2 A double plating of pure silver assures maximum light reflectivity.

3 A copper envelope over the pure silver provides lifetime protection for the silver.

4 A final silver-gray, satin finish gives added protection, blends with all interiors.

INCANDESCENT LIGHTING EQUIPMENT

- Show Windows
- Show Rooms
- Store Interiors
- Building Fronts
- Offices
- Schools
- Gymnasiums
- Power Houses
- Churches
- Hospitals
- Public Buildings
- Plants & Shops
- Warehouses

and many other uses

WRITE on your letterhead for new comprehensive catalog.

PITTSBURGH REFLECTOR COMPANY

421 OLIVER BUILDING, PITTSBURGH 22, PA.

FLUORESCENT "Pittsburgh" Permaflector Lighting INCANDESCENT

REPRESENTATIVES IN PRINCIPAL CITIES • WHOLESALERS EVERYWHERE

p/a manufacturers' literature

(Continued from page 141)

illumination chart for approximating lighting layouts and performance results, and installation instructions. The Art Metal Co., Cleveland 3, Ohio.

4-70. Guth Magic-lite, AIA 31-F-12 (914), 4-p. folder describing 24" square fixture for either recess or surface installation with grated louver diffuser and regular type "C" incandescent lamps. Dimensions, construction features, illustrations of surface and recess installations, pattern arrangements, illumination data, and installation details. Edwin F. Guth Co., 2615 Washington Blvd., St. Louis 3, Mo.

4-71. Decorative Lighting by Virden (54), 36-p. catalog covering line of residential lighting fixtures (ceiling mounted) and outdoor lanterns. All models shown in color, accompanied by list of wattages, dimensions, and finishes. Also, holders and hangers. Levitan-Robbins, Inc., 43-12 Queens Blvd., Long Island City 4, N. Y.

4-72. Panelboard Planning (B-6098), 16-p. booklet on planning of commercial and industrial circuit-breaker panelboards and describing line of panelboard equipment. Advantages of De-ion circuit breakers, characteristics of panelboards, new panelboard specification. Photos and drawings. Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa.

insulation (thermal, acoustical)

6-32. The Design of Insulated Roofs, AIA 37 (RW6.A1), 36-p. booklet discussing roof insulation both above and below deck, glass-fiber roof insulation, and related subjects such as causes of condensation, typical roof-ventilation methods, vapor barrier requirements, and glass-fiber insulation for use in ceilings. Data includes amount of heat transfer through typical roof decks with various insulations, properties of glass-fiber roof insulation, installation methods, specifications. Photos, drawings, charts, and index. Owens-Corning Fiberglas Corp., Toledo 1, Ohio.

6-33. Vermiculite Loose-Fill Building Insulation, AIA 37-C-2, 8-p. booklet describing properties of micaceous mineral material for insulation of attics, lofts, and side walls. "U" values of exterior, wall, roof, and ceiling construction with and without insulating fill, potential savings in fuel and summer air-conditioning costs, installation procedures illustrated with typical construction details. Vermiculite Institute, 208 S. LaSalle St., Chicago 4, Ill.

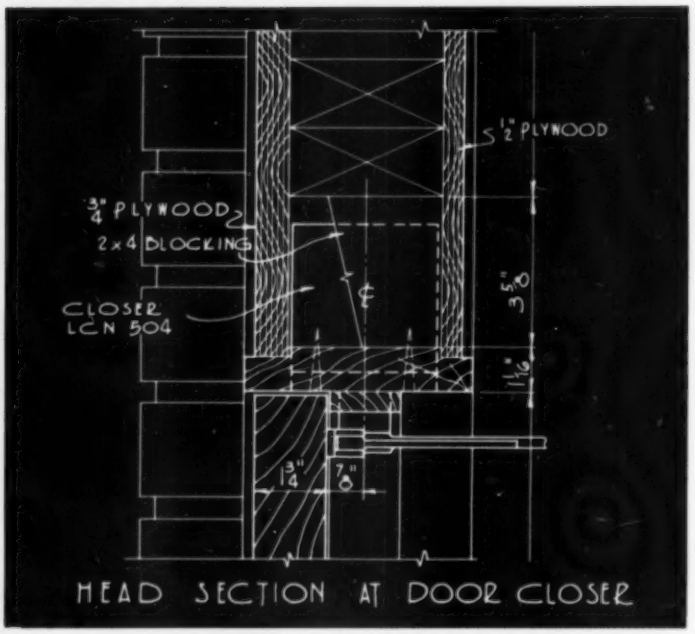
sanitation, plumbing, water supply

7-26. Briggs Beautyware Plumbing Fixtures, AIA 29-H (i), 24-p. catalog with detailed data on line of porcelain-enameled formed steel and vitreous china plumbing fixtures, including bathtubs, lavatories, water closets, sinks, and cabinets. Illustrations of models and fittings, features and dimensions of each, and color chart. Briggs Mfg. Co., Plumbing Ware Div., Detroit 11, Mich.

surfacing materials

9-38. Veos Wall Tile, AIA 23-F, 4-p. folder describing features of porcelain-on-steel wall tile. Available shapes and colors, installation method, illustrations of porcelain on cast-iron fittings mounted flush with tiled area, specifications, installation photos. Porcelain Enamel Products Corp., Rehoboth, Mass.

9-39. Quarry Tile Data File, file folder containing brochure on clay wall and floor tile and large installation photos. Physical properties, floor patterns, dimensions and illustrations of individual floor, cove base, and trim units. Summitville Tiles, Inc., Summitville, Ohio.



CONSTRUCTION DETAILS

for LCN Overhead Concealed Door Closer Installation Shown on Opposite Page

The LCN Series 500 Closer's Main Points:

1. Efficient, full rack-and-pinion, two-speed control of the door
2. Mechanism entirely concealed; arm visible on inside of an out-swinging door
3. Hydraulic back-check prevents door's being thrown open violently to damage door, walls, etc.
4. Double lever arm provides maximum power to overcome wind and drafts
5. Arm may be hold-open type, 90° to 140° or 140° to 180°

Complete Catalog on Request—No Obligation or See Sweet's 1954, Sec. 17e/L

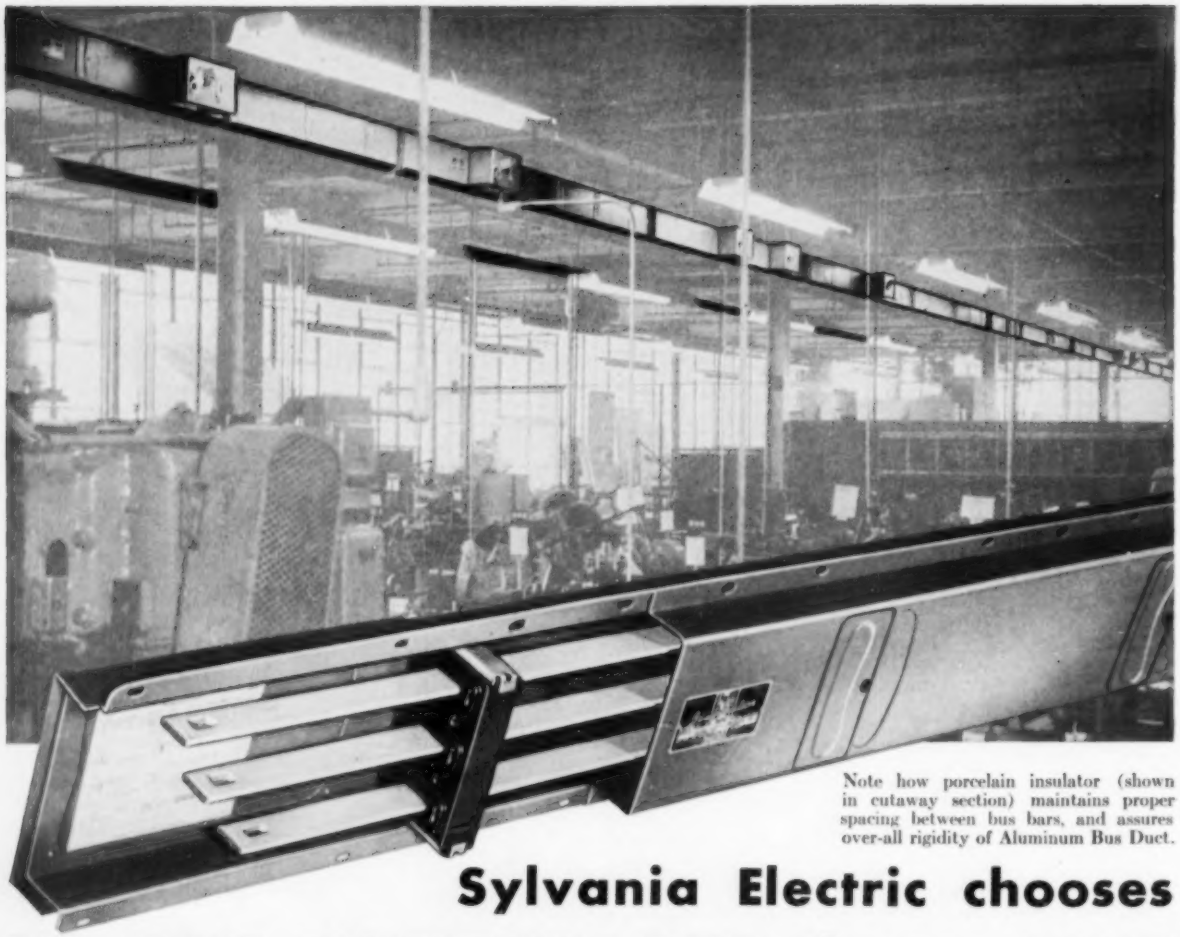
LCN CLOSERS, INC., PRINCETON, ILLINOIS

Ralph C. Flewelling & Walter L. Moody, Architects

MODERN DOOR CONTROL BY *LCN* · CLOSERS CONCEALED IN HEAD FRAME

CENTER STREET SCHOOL, EL SEGUNDO, CALIFORNIA

LCN CATALOG 11-E ON REQUEST OR SEE SWEET'S • LCN CLOSERS, INC., PRINCETON, ILLINOIS



Note how porcelain insulator (shown in cutaway section) maintains proper spacing between bus bars, and assures over-all rigidity of Aluminum Bus Duct.

Sylvania Electric chooses

BULLDOG ALUMINUM BUStribution® DUCT

Sylvania Electric — a company with many years of experience in the electrical field — was one of the early users of BullDog Bus Duct with lightweight aluminum conductors. BullDog Aluminum BUStribution Duct has provided Sylvania's plants with low-cost power distribution, and has enabled them to meet expanding production requirements.

Illustrated above is an installation of flexible BullDog Aluminum Plug-In Duct feeding lights and machines at Sylvania's York, Pa. plant. In its new electronics laboratory and production plant in Mountain View, Calif., Sylvania installed a 600-foot run of BullDog Aluminum Plug-in Duct, and materially reduced the ceiling truss load. The combination of lightweight aluminum duct and the patented BullDog scarf-lap joint meant faster, easier installation at less cost.

Operating costs are low, too. And relocation is accomplished with the same speed and economy as the original installation. Stocking accessory parts is simplified because the aluminum duct systems are completely interchangeable with other BullDog systems. This is important to those companies with many existing BUStribution installations.

BullDog Aluminum BUStribution Duct (LO-X® Duct for feeder and welder circuits, and Plug-In Duct for branch circuits) is listed by Underwriters' Laboratories, Inc. For complete information, consult your local BullDog Field Engineer. Or, write: BullDog Electric Products Company, Dept. PA-47, Detroit 32, Michigan. ©BEPCO, 1954

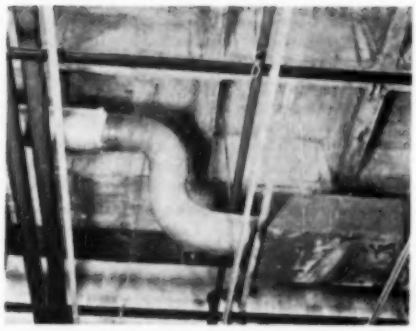
THOROUGHBRED IN ELECTRICAL EQUIPMENT

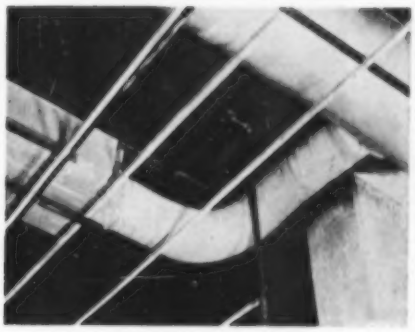
Export Division:
13 E. 40th Street
New York 16, New York

In Canada:
Dominion BullDog Limited
80 Clayson Road, Toronto 15, Ontario

BULLDOG
ELECTRIC PRODUCTS COMPANY

Semiautomatic nailer drives spikes on roof decking of large warehouse (left). Model 20-P Fox Nailers can be attached to any pneumatic hammer with a No. 2 Morse Taper. Length is only six in. and weight is less than one lb. When trigger is pulled, 16 to 20 penny nails are driven with the speed of a burp gun. Operation fatigue for overhead nailing is said to be reduced by 90 percent. No maintenance or lubrication is required. Fox Nailer Corporation, Seattle, Wash. Distributors: Morton & Company, 1500 S. W. Taylor, Portland 5, Ore.





Thermaflex ducting has been developed to transmit large quantities of air through small-diameter ducts in high-pressure air-conditioning systems. Lengths are square cut to size with ordinary pocket knife and cemented over outlets. Flexible ducting automatically compensates for misalignment of outlets; can be snaked around structural interferences without expensive elbows or joints. Flexible Tubing Corporation, Guilford, Conn.

air and temperature control

Finger Design Finned Radiation: new line of both nonferrous and steel finned radiation units for variety of steam and hot-water heating applications in industrial, commercial, and institutional buildings. Interlocking tabs, punched at corners of fins, are said to increase rigidity of elements and create more turbulence in air flow. Unit ratings (without covers) from 1020 to 4120 Btu/hr/lineal foot. Units available with flat top, slant top, or grill covers, in 6" increments, 2' to 12' lengths. American Air Filter Co., Inc., Louisville, Ky.

Freon Condensers: new line of ASME constructed, extended surface freon condensers in two styles: shell and coil condenser for small tonnage installations (2, 3, 5, 7½, and 10 ton sizes) and straight tube unit with removable heads, constructed and stamped in accordance with ASME Unfired Pressure Vessel Code (2 through 25 ton sizes). Bell & Gossett Co., Morton Grove, Ill.

(Continued on page 146)

p/a products

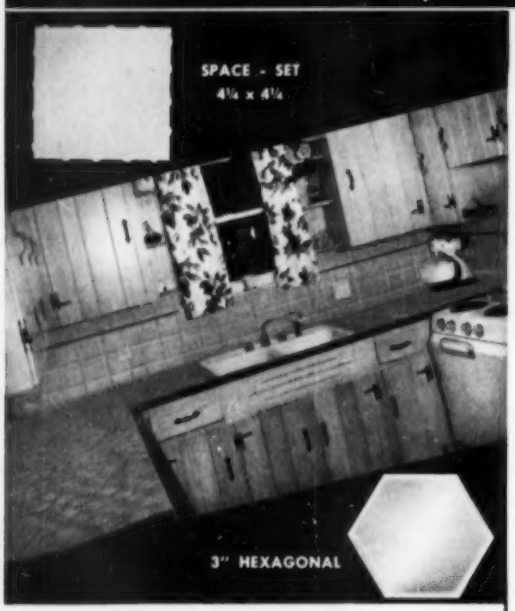
(Continued from page 145)

Radiant Heating: new radiant heating wire for use in dry-wall construction has new higher rating of 90 C. Nylon coating over thermoplastic insulation improves abrasion resistance. Both new wire and wire for installation in plaster are ceiling-installed and controlled by room or zone thermostats. General Electric Co., Construction Materials Div., Bridgeport 2, Conn.

Year-Round Home Air Conditioner: new heating and cooling unit with hermetically-sealed compressor, heat exchanger, and insulated cabinet (aluminum-faced glass fiber). Unit available in 2 and 3 ton sizes with either oil- or gas-fired furnaces. Heating output for oil-fired model: 83,000 Btu/hr, for gas-fired model: 80,000 Btu/hr. Flame of gas-fired model automatically adjusts to meet changing heat requirements. Units require 8.5 sq ft of floor space. Worthington Corp., Harrison, N. J.

ROMANY

Real Clay Tile



There is
AN
INCREASING
DEMAND
for
COUNTER
TOP
TILE!

Another
ROMANY
LEADER

Many new homes now enjoy the added luxury of a tile-top working surface in the kitchen, a glamorous tile top surrounding the lavatory in the bathroom.

Because—Real Clay ROMANY Tile has a glazed surface "hard as steel," it is especially adapted to counter-top use.

In conventional 4¼" x 4¼" square design with ROMANY'S exclusive "Space-Set" lugs, or in the inviting 3" hexagonal shape, ROMANY Tile offers many advantages.

For detailed information see Sweet's — or write us

for the specification consider these outstanding features

ROMANY IS:
FIRE PROOF
WEAR PROOF
FADE PROOF
AND
ACID PROOF

And is available in more than 30 attractive colors.

UNITED STATES QUARRY TILE CO
Member, Tile Council of America and Producers' Council, Inc.
217-G FOURTH ST., N.E., CANTON 2, OHIO

construction

KSM Welding Studs: corrosion-resistant fasteners for corrugated asbestos, steel, aluminum, flat asbestos, and insulation. All stud welding applications are from top side of roof or outside of wall. Studs are designed to allow maximum loading of fastener, yet allow wide safety factor; threads, where required, are rolled to provide additional strength. KSM Products, Inc., 321 Woodland Ave., Merchantville, N. J.

doors and windows

Gate City Aluminum Awning Window: new aluminum awning window features hidden fixed hinge, tube-type vinyl-plastic weatherstripping at jambs, sill, and meeting rails; aluminum strip glazing secured by screw through underside of sash rails; completely enclosed hardware; and compensating sash hardware automatically adjusting each sash. Both crank- and electrically-operated units will be available. Gate City Sash & Door Co., 15 S. W. Third Ave., Ft. Lauderdale, Fla.

Herculite Door: new tempered glass door, ½" thick, weighs 50 lb less than ¾" tempered glass doors now available. Designed to swing more easily in manual operation, new door has same quality, appearance, and hardware of heavier models. Pittsburgh Plate Glass Co., 632 Fort Duquesne Blvd., Pittsburgh 22, Pa.

Yale 5300 Series: key-in-knob, push-button cylindrical locks for standard lock applications in homes, apartment houses, hotels, light commercial buildings, schools and other institutions. Line covers 16 universally-applied lock functions; four basic designs produced in brass, bronze, and aluminum; 512 combinations possible with two lever knobs, two entrance handles, and eight escutcheons. Locks equipped with brass cylinders, wrought-steel casings, and interior working parts treated against corrosion. The Yale & Towne Mfg. Co., Stamford, Conn.

finishers and protectors

Duo-Tex Fire Retardant Paint: resin-base, intumescent-type interior finish immediately swells and chars on contact with flame or excessive heat to provide insulating blanket of noncombustible ash over affected surface. Also resistant to mildew and fungus, paint does not crack, chalk, craze, or blister. Brush or spray application; 12 pastel colors. The Glidden Co., Cleveland, Ohio.

Opal-Glo: new interior wall coating with aluminum as principal ingredient for use in homes, office buildings, hotels, theaters, stores, and factories. Opaque aluminum particles reflect light through opalescent colored pigments. With stippling, particles change in suspension and cause varia-

(Continued on page 150)

How To Build *Better* Curtain Walls For Much *Less* Money!

with

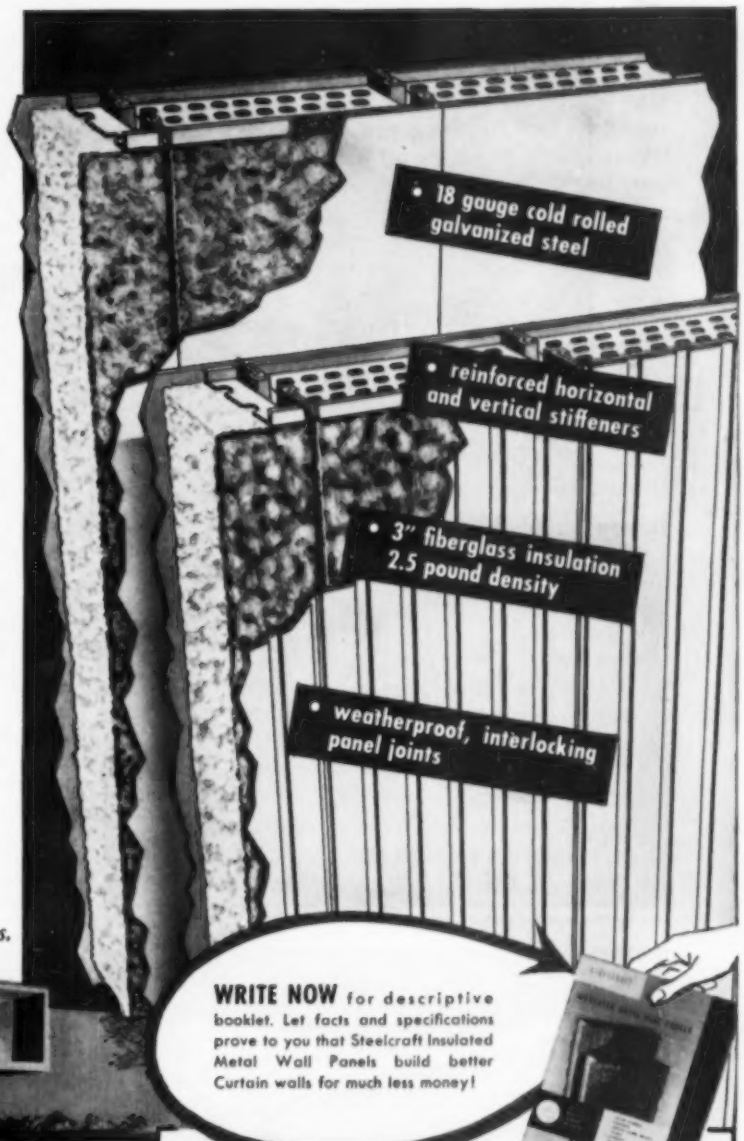
LIGHTWEIGHT STEELCRAFT *INSULATED* METAL WALL PANELS

Steelcraft Insulated Metal Wall Panels are factory assembled for quick, easy erection. These lightweight, fiberglass insulated panels cut commercial or industrial building costs through savings in time, labor, and in structural framing and foundations *resulting in much greater interior area.*

Fabricated to rigid specifications, Steelcraft Wall Panels have higher than normal load bearing qualities. Interlocking panel joints are weatherproof and watertight. Flush or fluted exterior panels form a continuous wall that harmonizes perfectly with modern architectural design.

Galvanized steel, aluminum or stainless steel wall panels are available in various colors and textures.* Furnished in lengths up to 20', with a standard width of 24", panels may be applied horizontally or vertically and still remain flexible for simplified expansion or remodeling at a future date.

**Also available in porcelain enamel finishes.*


• 18 gauge cold rolled galvanized steel
• reinforced horizontal and vertical stiffeners
• 3" fiberglass insulation 2.5 pound density
• weatherproof, interlocking panel joints

WRITE NOW for descriptive booklet. Let facts and specifications prove to you that Steelcraft Insulated Metal Wall Panels build better Curtain walls for much less money!

STEEL Craft

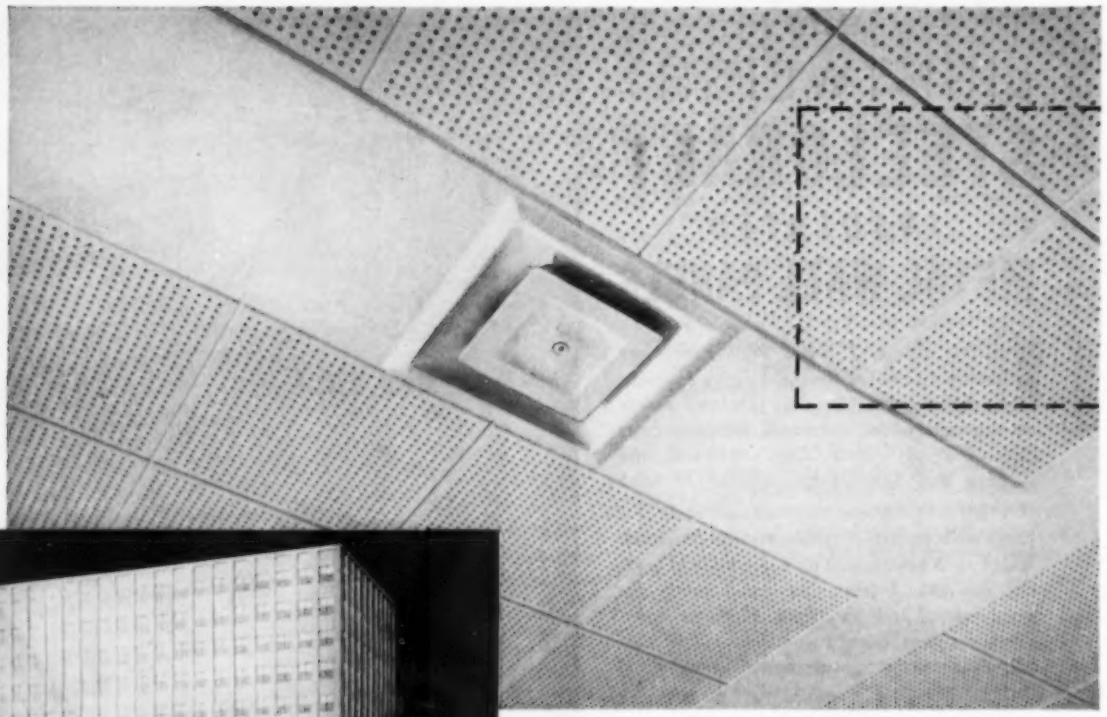
THE STEELCRAFT MANUFACTURING COMPANY
ROSSMOYNE, OHIO (In Greater Cincinnati)

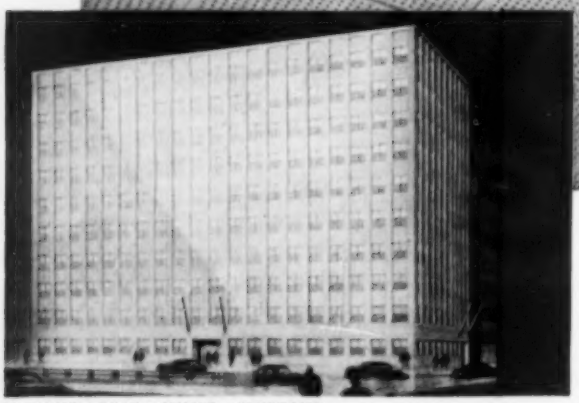
THE STEEL[illegible]RKING CO.
DEPT. PA-754, 9017 BLUE ASH RD.
ROSSMOYNE, OHIO (In Greater Cincinnati)

Please rush me FREE Booklet proving Steelcraft Insulated Metal Wall Panels build better curtain walls at far lower cost.

NAME.....
COMPANY.....TITLE.....
ADDRESS.....
CITY.....ZONE.....STATE.....

Now... made to be integrated





HOLABIRD & ROOT & BURGEE • ARCHITECTS

BASIC BEAUTY of the ceiling is accented by the Kno-Draft Panel Type Air Diffusers, which blend into the ceiling pattern and create a single unified surface that is absolutely level and pleasing to the eye.

SINCLAIR OIL COMPANY'S new modern 12-story building in Chicago. Acoustical ceilings with integral Kno-Draft Panel Type Air Diffusers are used throughout.

EASY TO INSTALL as the acoustical tiles themselves, Kno-Draft panels snap quickly into place. Ducts and flexible connections are readily accessible and connections can be made in a matter of minutes.

FLEXIBILITY of location is a big feature of Kno-Draft Panel Type Air Diffusers. Flexible connections permit diffuser panels to be offset from ducts. This allows partitions, offices, display areas to be relocated without moving ductwork.

with your acoustical ceilings...

kno·draft®

PANEL TYPE air diffusers

These handsome, efficient Kno-Draft Panel Type Air Diffusers are especially designed for use with suspended acoustical ceilings, and can be moved anywhere on the ceiling to meet changing conditions of occupancy. They benefit everyone —

Architects can specify handsome, low-cost ceilings with completely integrated air diffusers and lighting units.

Consulting engineers have a welcome flexibility in design and avoid the exact calculations imposed by fixed outlets and rigid connections.

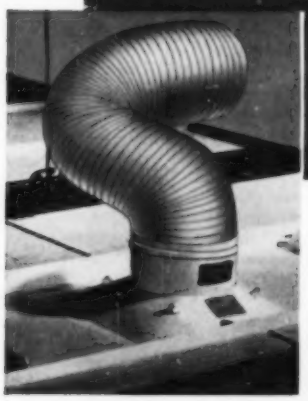
Sheet metal contractors save a lot of installation time and labor. Kno-Draft Panel Type Air Diffusers go up faster than any others.

Building maintenance engineers always have quick access to the concealed service lines, air ducts and wiring.

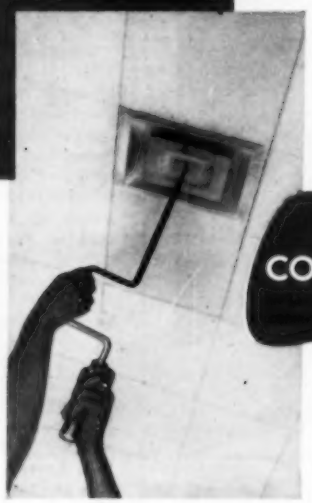
Owners enjoy the comfort of perfect air diffusion and can relocate diffusers and lighting units easily to meet demand changes.

Kno-Draft Panel Type Air Diffusers are available in 12" x 24" and 12" x 48" panels and three outlet sizes to handle up to 175 c.f.m. Diffusers can be easily adjusted *after installation* to regulate air volume without affecting air velocity which remains constant. No air "spoilage" at *any* damper position.

For complete specifications and engineering data, mail the coupon today. Connor Engineering Corporation, Danbury, Connecticut.



COMPLEX BENDS to connect diffusers to ducts may sometimes be necessary. They can be easily made by taking off from side of duct. Special connectors are practically indestructible, will not support combustion, and maintain a uniform interior cross section at all times. They do not contribute to noise level.



DAMPER ADJUSTMENT to control air volume can be made quickly and easily *after installation*. Exclusive Kno-Draft sleeve type damper regulates volume without affecting air velocity.

CONNOR

kno·draft®

panel type air diffusers

we are catalog in ARCHITECTURAL FILE or write for copy

CONNOR ENGINEERING CORPORATION
Dept. V-74, Danbury, Connecticut

Please send me, without obligation, full information on your new Kno-Draft Panel Type Air Diffusers.

Name _____

Company _____

Address _____

p/a products

(Continued from page 146)

tions in reflection of light. Available in seven colors. The Sherwin-Williams Co., Cleveland 1, Ohio, and Aluminum Co. of America, 1501 Alcoa Bldg., Pittsburgh 19, Pa.

electrical equipment, lighting

Aluminum Cable Adapter: new adapter, made of special tin-plated copper alloy, makes possible interchangeable use of aluminum and copper electrical conductor in switch and control equipment. Adapter's round barrel fits on cable with smaller, split cylinder inserted under equipment clamp. Made in straight and right-angle types for #4 and #2 stranded aluminum cable, adapter is recommended for meter enclosures, other enclosed electrical terminal connections, and for connecting to exposed pole-line equipment. The Thomas & Betts Co., Elizabeth, N. J.

Falcon Series: new line of luminaires for school and office lighting designed to give 60% downlight and 40% uplight, with 35° x 35° lamp shielding. Fixtures available with either steel side reflectors or translucent polystyrene sides. Fabricated of heavy-gage zinc-plated steel and equipped with E.T.L. certified apparatus. The Edwin F. Guth Co., 2615 Washington Blvd., St. Louis, Mo.

insulation (thermal, acoustical)

Twinsulation: new insulation blanket comprising aluminum foil side providing vapor barrier, aluminum-coated side permeable to vapor, and rock wool inside casing sealed to both sides. Both reflective surfaces turn back radiated heat while rock wool also blocks passage of heat. Semi-thick and full-thick blankets available in 15", 19", and 23" widths, and in 4' and 8' lengths. National Gypsum Co., 325 Delaware Ave., Buffalo 2, N. Y.

specialized equipment

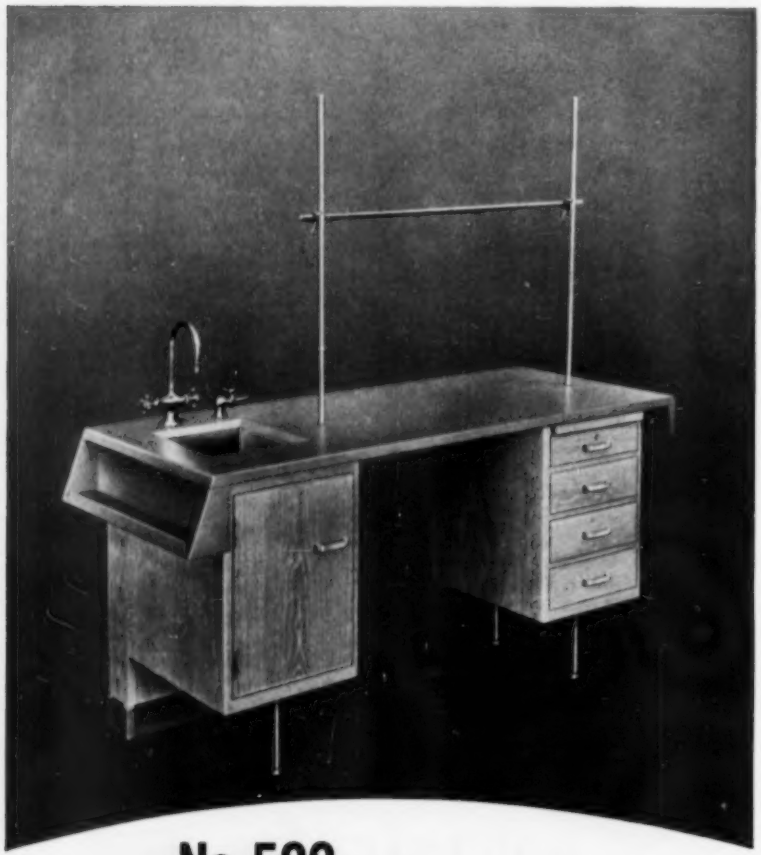
VL and CB Fire Extinguishers: new single-cylinder, pressure-type fire extinguishers for all classes of incipient fires, particularly those occuring in electrical apparatus and flammable liquids. Either carbon tetrachloride or chlorobromomethane used as vaporizing liquid. Extinguisher constructed of brass throughout and furnished with either standard wall- or clamping-type vehicle bracket. Approved by UL and Factory Mutuals. Pyrene Mfg. Co., 560 Belmont Ave., Newark 8, N. J.

surfacing materials

Durapad: new sponge-rubber padding with vinyl-plastic facing for use as cushioning against shock, noise, and foot fatigue in restaurants, cafeterias, institutions, and factories. Padding comes in 18" and 36" widths, thicknesses from ⅛" to 1", any length up to 40 yards, 4 colors. Fabric backing provides stability and prevents curling. Durkee-Atwood Co., Industrial Div., Minneapolis 12, Minn.

EverSide: new beveled siding of exterior fir plywood with one face overlaid with phenolic resin fiber. Tips are 5/32" broadening out to butt ranging from 9/16" to ¾", depending on width of panel. Siding precut in widths of 12", 16", 20", and 24"; 8' and 9' 4" lengths. Walton Plywood Co., Inc., Everett, Wash.

Hiltonian Lowboy: heavy-duty machine for floor maintenance in schools, hospitals, industrial plants, commercial buildings, and institutions. Four sets of brushes and plates for scrubbing, polishing, steelwooling, and burnishing. Machines available in 16" and 19" sizes with over-all height of 8". Hillyard Chemical Co., St. Joseph, Mo.



The **No. 500** Demonstration Desk, with the new Sjöström acid-resistant green top, is a companion item to the famous Multi-Purpose laboratory units. Over-all sizes are 6'0" long x 30" wide x 36" high. Write for specs. It's another efficiency unit—in *Unaflex*

JOHN E. SJÖSTRÖM COMPANY, INC.
1700 NORTH TENTH STREET, PHILADELPHIA 22, PA.

NEW additions to the WESLOCK Line

These new WESLOCKS are available for Sliding Pocket Doors. All outside trim is of solid brass. Locking levers on privacy locks are tempered steel and are retractable. No protruding bolts when door is in unlocked position. Reversible and will fit right and left hand doors 1⅜" to 1¾".

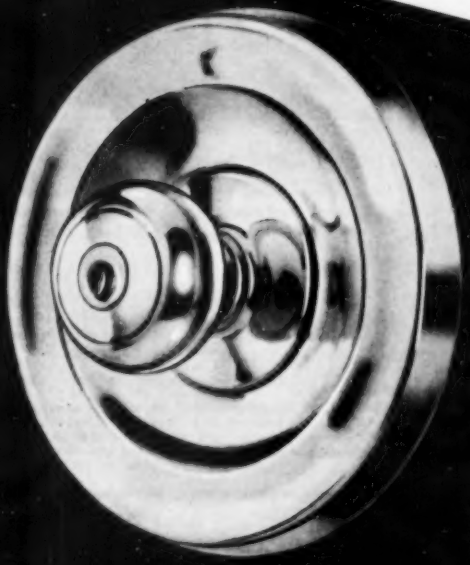
New PASSAGE SET

OPEN

CLOSED

New PRIVACY LOCK

New 5½" ESCUTCHEON WITH 5" BACKSET



Write for further information.

WESTERN LOCK MFG. CO.

WESTERN WESLOCK

GENERAL OFFICES: 211 NORTH MADISON AVE., LOS A

Years of varied use prove what FACING TILE will do—

FACING TILE HELPS A 23-YEAR-OLD SCHOOL STAY YOUNG

Wainscotings of glazed structural Facing Tile help to keep corridors and stairwells in this 23-year-old school looking as clean and cheerful as the day they were built.

Says D. R. Gee, Superintendent of Maintenance, "Facing Tile has saved us thousands of dollars in maintenance costs over the years. An occasional washing is all that's needed to keep it bright and sparkling. It's a highly durable finish—and a guarantee against gloomy corridors."

SAVES REFINISHING COSTS—Glazed or unglazed, Facing Tile's tough ceramic surface resists heavy school usage, eliminates the trouble and cost of redecorating.

CUTS MAINTENANCE—Facing Tile defies pencil marks and ink stains—needs only a quick sponging down with plain soap and water to preserve its original luster.

ADDS STRUCTURAL STRENGTH—No need to worry about material failures—Facing Tile provides the time-tested structural stability of burned clay products.

HELPS COLOR PLANNING—Facing Tile colors are scientifically designed by color authority Faber Birren to help you fit the surroundings to the task—and you can rest assured that the color you specify will *last*.

SIMPLIFIES CONSTRUCTION—Made in large modular sizes, Facing Tile lays up fast, with a minimum of cutting and fitting, builds a load-bearing wall and finish in one labor-saving step.

For complete data, contact any Institute Member, or write us direct. Address Dept. PA-7.

FACING TILE INSTITUTE

1520 18th St., N. W., Wash. 6, D. C. • 1949 Grand Central Terminal, N. Y. 17, N. Y.

Arria Huntington School, Syracuse, New York
Melvin L. Keng and Harry A. Keng, Architects

LOOK FOR FTI THIS SEAL

Used only by the members of the Facing Tile Institute, it is your assurance of highest quality. In the interest of better Facing Tile construction the companies listed below have contributed to the preparation of this advertisement.

CHARLESTON CLAY PRODUCTS CO.
Charleston 22, West Virginia

METROPOLITAN BRICK, INC.
Canton 2, Ohio

THE CLAYCRAFT CO.
Columbus 16, Ohio

McNEES-KITTANNING CO.
Kittanning, Pennsylvania

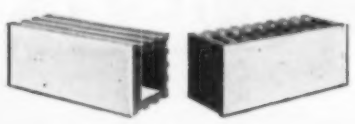
HYDRAULIC PRESS BRICK CO.
Brazil, Indiana

NATCO CORPORATION
Pittsburgh 22, Pennsylvania

NAPLETON CLAY PRODUCTS CO.
Canton, Ohio

STARK CERAMICS, INC.
Canton 1, Ohio

WEST VIRGINIA BRICK CO.
Charleston 24, West Virginia



by Carl Feiss

out of school

G. Holmes Perkins, Dean of Fine Arts and Architecture at the University of Pennsylvania, contributes this month a thoughtful article on the Teaching of Architectural Design. I know that practitioners, educators, and students will all find that a study of what Dean Perkins has to say will be value to them in their thinking about the teaching of Architecture. As an alumnus of the School of Architecture of the University of Pennsylvania, I am proud and happy of the fine leadership which the School has in Dean Perkins, so I take a double pride in presenting this month's guest.

•

Until the advent of Carl Feiss' OUT OF SCHOOL, those of us in the schools have had few outlets for our trials and tribulations—and almost no audience. The lively and provocative analyses of the special problems of an architect's education come happily at a time when the discussion is still at a boil among educators and practitioners alike. Yet, with all the divergence of opinion natural to a period of unprecedented change and in spite of the multiplicity of educational experiments, there is still a wide area of agreement which might surprise the casual on-looker who only sees the fury and the sound of dispute. Yet is it not this very dispute which, in the long run, fosters the development of a common ground and makes progress possible in the development of better methods?

As a reaction to the growth of a progressively more unrealistic and abstract process of architectural education, there sprang up a somewhat intemporate clamor for a return to the apprenticeship methods of the Middle Ages. Surely many of the criticisms of the earlier system had validity and just as surely there were many merits in the intimate contact with the building process which was gained through apprenticeship to the medieval master builder. Yet neither the old nor the proposed alternative came to grips with the basic problems of a modern age. The older system did nothing to foster in the student a basic understanding of the evolving social needs and desires without which no properly functioning architectural solution is possible. An apprenticeship system, in spite of its obvious value in bringing the student in contact with the realities of building, is truly reactionary in its failure to recognize the technical and organizational complexities of architecture today; nor does it offer a better avenue for social understanding. Never in history has the architect been forced to find in so short a time so many unprecedented design solutions to problems created by changing social demands and technical inventions. Facts which he learns at school become out-dated before he has the opportunity to use them as a responsible professional. The basic weak-

(Continued on page 154)

There are 57 Bradley Washfountains in the California State Institution, two of which are shown above.

SAFE, SANITARY WASH FIXTURES

Central Sprayhead Replaces Faucets

FOR HOSPITALS AND INSTITUTIONS

Up to 10 persons can wash simultaneously at the 54" circular Washfountain. Bradleys are made in precast stone, white or green enameled iron, and stainless steel.

Bradley Washfountains are widely used in schools, sanitaria, institutions and hospitals throughout the country, and are recognized as the most sanitary of washing facilities.

One Washfountain replaces 10 ordinary single-person basins. One Bradley sprayhead replaces 20 faucets. Foot-control supplies a spray of clean, tempered water, leaving both hands free to wash and rinse for maximum sanitation. Water waste is eliminated because water supply is automatically cut off when the foot is removed from control ring.

AND THE DUO

The Bradley DUO is ideal for the smaller washrooms. Each DUO serves two persons—has the same sanitary foot-control and sprayhead to replace faucets as the larger Bradleys.

BRADLEY WASHFOUNTAIN CO.
2277 W. Michigan Street
Milwaukee 1, Wisconsin

Write for Catalog 5204.

BRADLEY washfountains

Distributed Through Plumbing Wholesalers

kurt versen

HOSPITALITY LIGHT---------

makes one outlet do the work of 5

The new "Hospitality Light" provides patented flexibility heretofore unknown in hospital room lighting. Combining all facilities in one master outlet mounted on the wall behind each bed, it includes in one compact unit:

1 *Reading light on double swivel arm, adjustable to any patient position.*

2 *Indirect light for pleasant, homelike illumination.*

3 *Examination light is simply the indirect light tilted downward on its swivel.*

4 *Night light in housing directs fan-shaped beam behind bed.*

5 *One or two convenience outlets for electrical appliances.*

The "Hospital Light" is plugged into a wall-mounted receptacle fitted to a master outlet.

It takes just one minute to remove and replace it with a spare for easy maintenance.

A Kurt Versen field engineer will gladly demonstrate how the "Hospitality Light" gives you the utmost in hospital lighting efficiency. Write for full information including specifications and name of our field engineer nearest you.

kurt versen company

englewood, n. j.

contemporary lighting

out of school

(Continued from page 153)

ness of any approach which emphasizes the accumulation of current facts becomes overwhelmingly clear in this period of rapid change.

The architect's ability to find constantly improved solutions to constantly changing problems requires the development of the habit of experiment and invention. A meaningful sense of space and form can only grow out of a deep and sympathetic understanding of human needs when coupled with an equally intense awareness of the latent opportunities discoverable in today's technical processes and materials. The whimsical architecture of the esthete is to be shunned as much as the stultifying dictates of the doctrinnaire. The architect is called upon to find unprecedented experimental forms to solve new problems, to grasp the significance of new methods of fabrication which can save materials and manpower, to recognize the impact of the improvement of old materials upon architectural design. Out of this vortex of forces new forms of architecture are emerging which are the invention of the architect. In recent years, such inventions as the lift slab, the space frame, the new vaulted forms inherent in shell concrete and bent plywood, and the use of tension structures have given architecture a new look.

In any scheme of architectural education it would, therefore, seem that there is first of all a need to understand with some precision the habits, thoughts, and feelings of one's fellow citizens without which no reasonable solution can be achieved in terms of functional efficiency and beauty. Secondly, through experiment in the laboratory and on the job, the special potentialities of structure will be absorbed by the future architect to a point where his sense of structure will become an inherent and instinctive part of his normal way of working. A similar grasp of problems of the form inherent in the increasingly complex and costly mechanical plant and acoustical treatment becomes ever more critical.

The prime objective of architectural education is therefore to acquaint the student with the creative way of working

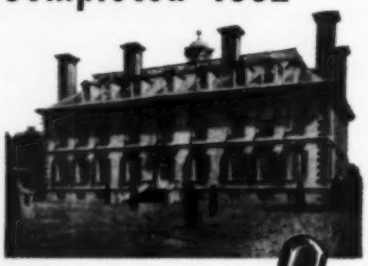
(Continued on page 158)

COLESHILL HOUSE

BERKSHIRE, ENGLAND

INIGO JONES, ARCH'T

Completed 1662

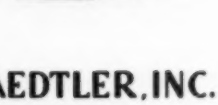


In that same year, 1662, nearly 300 years ago, the first Staedtler pencils were produced in Nurnberg, Germany. Since then Staedtler has made constant improvement in pencil design and manufacture. Today the 2886 Mars-Lumograph is America's finest imported drawing pencil; in the clutch pencil field, the combination of the new 1001 Technico Mars-Lumograph push-button lead holder and 1904 Mars-Lumograph imported drawing leads insures your having the very best.

The 2886 Mars-Lumograph drawing pencil gives you precise thickness and the blackness of line needed for crisper, cleaner prints. Perfectly graded in 19 degrees; EXEXB to 9H. $1.50 per dozen—less in quantity.

The 1001 Technico Mars-Lumograph push-button lead holder costs no more than ordinary holders, has a noiseless, smooth-working, low-friction clutch mechanism, lightweight wood construction with perfect balance and, built into the push-button cap, a unique lead sharpener. $1.50 each—less in quantity.

1904 Mars-Lumograph Imported Drawing Leads are so opaque that inking-in is not necessary. Leads are ribbed for firm clutch grip and each has a removable cap which prevents sliding from holder. Available in 18 degrees; EXB to 9H. $1.20 per dozen—less in quantity.

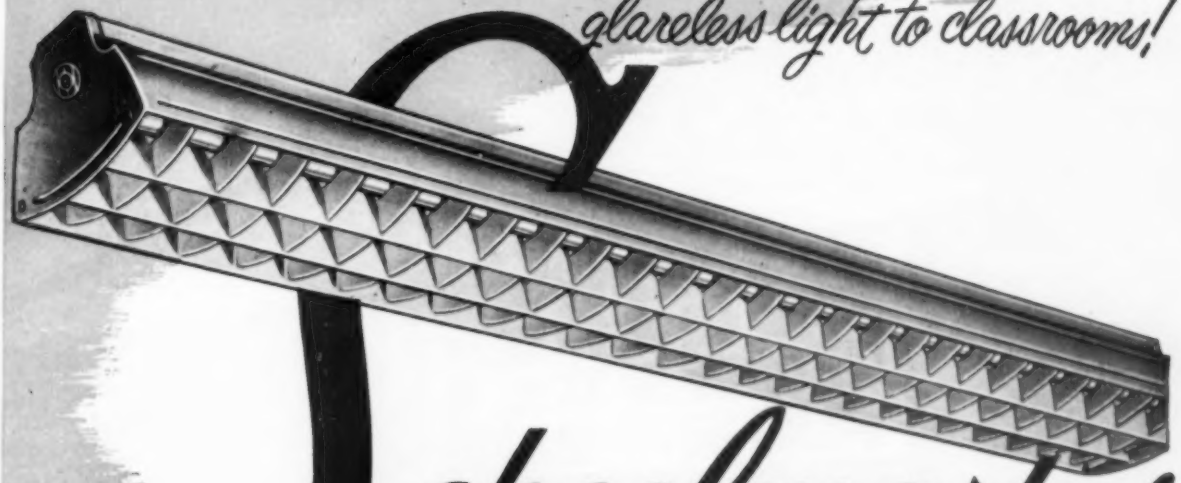


J.S. STAEDTLER, INC.

28 DICAROLIS COURT

HACKENSACK, NEW JERSEY

the Benjamin Leader Line brings economical, glareless light to classrooms!



Schoolmaster

Quality Light for Close Seeing

LOW-COST MAINTENANCE—louver swings down to right or left for easy servicing, or may be removed for maintenance

CHOICE OF MOUNTINGS:

individual units — direct to ceiling
continuous lines — suspended

Now—scientifically designed lighting quality for classrooms, offices, libraries, etc. The "*Schoolmaster*" provides abundant light output, adequate shielding, ease and flexibility of installation, at low first cost and economical maintenance.

"*Schoolmaster*" utilizes 40-watt Bipin fluorescent lamps or instant-starting 48", 72" or 96" Slimlines. A choice of steel or transparent plastic side panels is available.

Whatever your school lighting problem, either in new construction or remodeling, you'll find the unit with the right solution in the Benjamin-Leader Line Send for latest Data Bulletin on Benjamin-Leader Line Lighting Equipment.

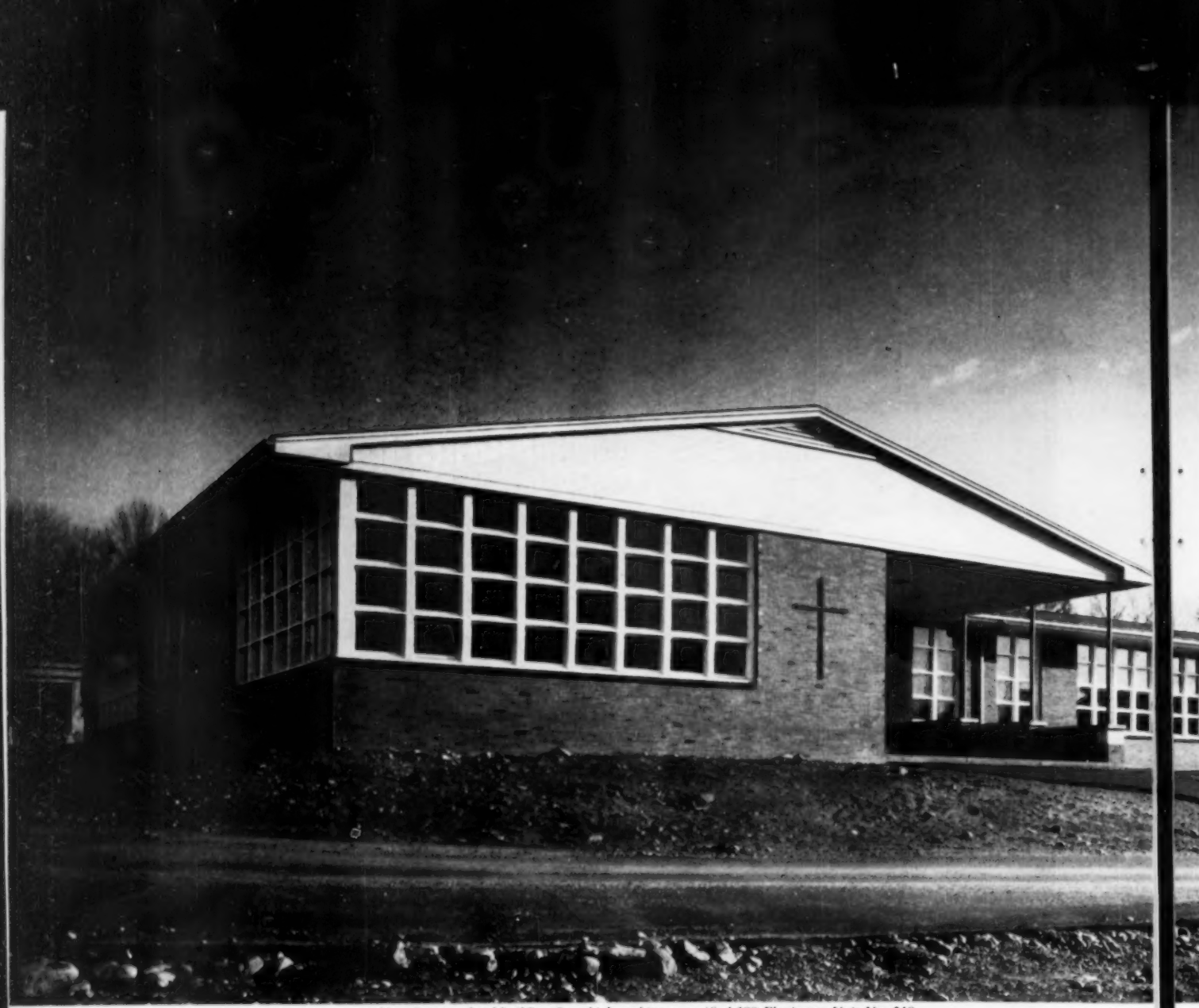
BENJAMIN

Leader Line

Sold Exclusively through Electrical Distributors

Exclusive licensee of the Leader Line in Canada: Robertson Irwin Limited, Hamilton, Ontario

Benjamin Electric Mfg. Co., Leader Division, Dept. PA, Des Plaines, Illinois, also makers of famous Benjamin lighting equipment and sound signals for Industry, Institutions and Commerce.



New Jersey school building for which architect specified 388 Flexivents Unit No. 218.

Versatile Andersen prove ideal for school

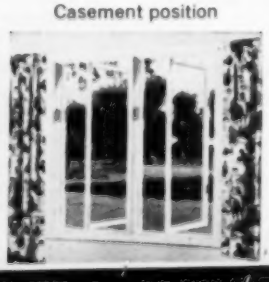
Combination of bright, airy classrooms contained in a building of pleasing design has been achieved through effective use of Flexivents in Holy Rosary School at Erskine Lakes, New Jersey. Flexivents were specified by Architect, Brother Cajetan J. B. Baumann, O.F.M., A.I.A. Builder David Stokem finds Flexivent's "price is right, installation is simple and there are no window failures." In Holy Rosary School the architect has used large, 32-sash groupings of Flexivents with bottom and third row vented hopper style, alternate rows fixed glazing. Dimensions of the Flexivent No. 218 used here adapt perfectly to the architectural style of the building. Utilization of both operating and fixed sash provide for the fresh air and sunshine so desirable in school rooms. WINDOWALLS sold by established millwork dealers throughout the United States including the West Coast.

FLEXIBLE IS THE WORD FOR *FLEXIVENT*

Hopper position

Awning position

Casement position



New optional Roto Lock Underscreen Operator...

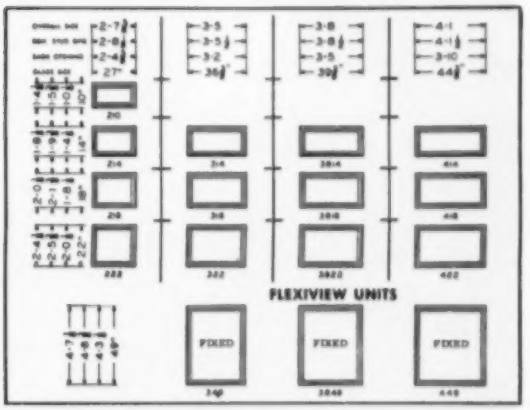
Optional Andersen Double Insulating Glass...

FLEXIVENT units construction

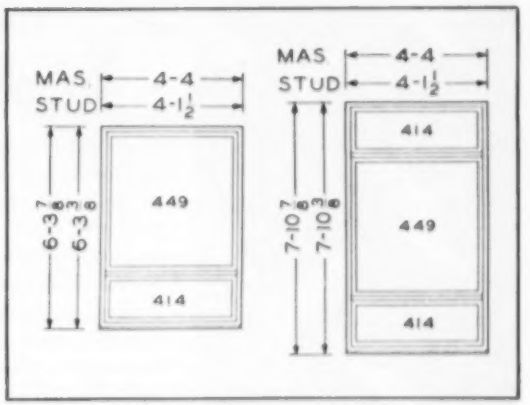
New **FLEXIVIEW** picture units... new 3'8" width make *FLEXIVENT* more versatile than ever!

Even greater design possibilities now stem from the versatile Flexivent. New Flexiview Units, picture window partners to the Flexivent, can be combined with either fixed or operating Flexivent Units to form WINDOWALLS of remarkably low over-all cost per square foot.

Addition of the new 3'8" width to the Flexivent line, including the Flexiview Picture Units, makes the Flexivent perfectly adaptable to 4' modular panel systems of construction.



New table of sizes shows complete new Flexivent line. Flexiview Picture Units are glazed either DS with quality window glass or with Andersen Double Insulating Glass.



Suggested combinations particularly adaptable to schools, indicate the wide range of picture window possibilities available with addition of new Flexiview Picture Units to the Flexivent line.

Andersen *Windowalls*

COMPLETE **WOOD** WINDOW UNITS

TRADEMARK OF ANDERSEN CORPORATION

Andersen Corporation
BAYPORT, MINNESOTA

Andersen Corporation
Bayport, Minnesota PA-74

Please send me detail information on Andersen Flexivent Windows including new Flexiview Picture Units.

Please check ☐ also send Detail Catalog ☐ also send Tracing Detail File

Name .....

Firm .....

Address .....

City ..... *Zone* .... *State* .....

Safer than Slippery Flooring

This aerialist spinning high over the center ring *knows* she's taking a risk—but training warns her to be careful. However, every day workmen are killed or hurt falling on slippery floors that *look* safe but are treacherous underfoot. Best inexpensive insurance against these accidents is A.W. SUPER-DIAMOND—the floor plate with 40 slip-stopping traction points in every step. SUPER-DIAMOND is tough, rolled steel, with an exclusive raised-diamond surface that takes rugged wear and gives maximum foot safety in return. Specify SUPER-DIAMOND when you want the best buy in low-cost accident prevention. Easy to install. Simple to maintain. Write today for the new, free SUPER-DIAMOND Booklet SD-25.

A.W. SUPER-DIAMOND

Economy Rolled Steel Floor Plate

ALAN WOOD STEEL COMPANY

CONSHOHOCKEN, PA.

Other Products: A.W. ALGRIP Abrasive Rolled Steel Floor Plate Plates • Sheet • Strip • (Alloy and Special Grades)

out of school

(Continued from page 154)

which is common to all of the arts of design. Although many curricular variations can be devised, success depends upon offering the student the most frequent and attractive opportunities for experiment and invention. The discipline of investigative work must form the base for experiment. Invention will bloom most effectively where knowledge is deepest and most closely coupled with a creative habit of mind. By work in the field, by contact with humanity, by experiments in the laboratory and on the job, and by maintaining at all times an open mind to the inventions of others it may be possible to develop the native abilities of the student to the point where he can in future years in the profession, continue to grow in maturity and vision. Any tendency to become satisfied with current methods of production or design can only prove stultifying in the long run. Even the most massive knowledge of the techniques of building will not in itself make the architect. Such a man is capable only of repeating the outer trappings of architectural form of another generation, unthinkingly and without understanding.

It is, therefore, evident that the acquisition of facts no matter how well learned and no matter how necessary is not the major problem in the education of the architect. Instead the most pressing need is the development of an imagination capable of welding into creative form a concept of space possessing real beauty, an effiiciently functioning plan, and a structural idea with today's technical and material and economic means. The creative act which permits the architect to conceive a building which grows out of so many diverse needs, restrictions, and opportunities is the special skill which deserves the most asiduous cultivation in the school.

•

Carl Feiss has asked me to put down briefly some of the means we use to encourage the students along this line. Though it perhaps should be taken for granted, there is clearly no magic in any system. Where there is magic it is in the teacher not the system. Yet I am asked

(Continued on page 160)

nails
hardware
trim
railings
drinking fountains
doors
transoms
roofs
sheathing
louvres
curtain walls
grilles
spandrels
mullions

stainless steel lets buildings go modern

For buildings with that modern flavor, more and more they're using stainless. For Crucible Rezistal® stainless steel resists atmospheric attack even in industrial areas. It's attractive to start with, and *with minimum care, stays attractive for life.*

What's more, Crucible stainless – readily fabricated into a bewildering assortment of complex structural shapes – is quick and easy to install, reflecting actual cash savings for building owners even before the first tenant moves in. And since stainless is so strong and tough, it withstands hard knocks of all kinds, and imparts additional structural strength to components of which it is a major part.

That's why Crucible stainless steel gains favor increasingly with architects and builders all over the country – for new buildings and for renovation of old buildings. It's the *truly modern* way to go modern.

Let us work with you on applications of stainless steel, the modern architectural material. For reference information on the uses of Crucible stainless steel in modern business structures, call Crucible. There's no obligation, of course.

CRUCIBLE first name in special purpose steels

54 years of Fine steelmaking **STAINLESS STEELS**

CRUCIBLE STEEL COMPANY OF AMERICA, GENERAL SALES OFFICES, OLIVER BUILDING, PITTSBURGH, PA.

REX HIGH SPEED • TOOL • REZISTAL STAINLESS • MAX-EL • ALLOY • SPECIAL PURPOSE STEELS

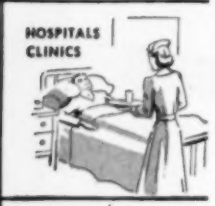
Canadian Distributor — Railway & Power Engineering Corp., Ltd.

where noise transmission must be controlled...let

RIVERBANK *SOUND INSULATING* **DOORS**

share your responsibility

With RIVERBANK DOORS, there's no need for "guessing" how much noise or sound you can eliminate from doorway openings. These *sound insulating* doors are *pre-measured* for sound reduction so that you know in advance just what the final noise factor of the room will be. RIVERBANK DOORS come in 35, 40 and 43 decibel degrees of transmission loss — For example, the noise level from a stenographic room of 70 decibels can be reduced to 30 decibels, or made practically inaudible, by using a RIVERBANK "40" door. Specified by leading architects and acoustical engineers for TV and radio studios, music and band rooms, schools, hospitals, doctors' and private business offices. Write for details or consult ARCHITECTURAL FILE 16c/HA



STANDARD SOLID CORE DOORS, TOO!

In addition to RIVERBANK *sound insulating* Doors, we specialize in doors such as solid core flush doors, fire doors, X-ray and shielded doors for all types of private and public buildings. Most important to you — *all* HARDWOOD DOORS are *made-to-order for your job!*

New Folder Especially prepared to acquaint your clients with RIVERBANK Doors is now ready — Write for free copy.

OFFICES IN NEW YORK BOSTON CHICAGO

HARDWOOD *PRODUCTS CORPORATION* **DOORS**

out of school

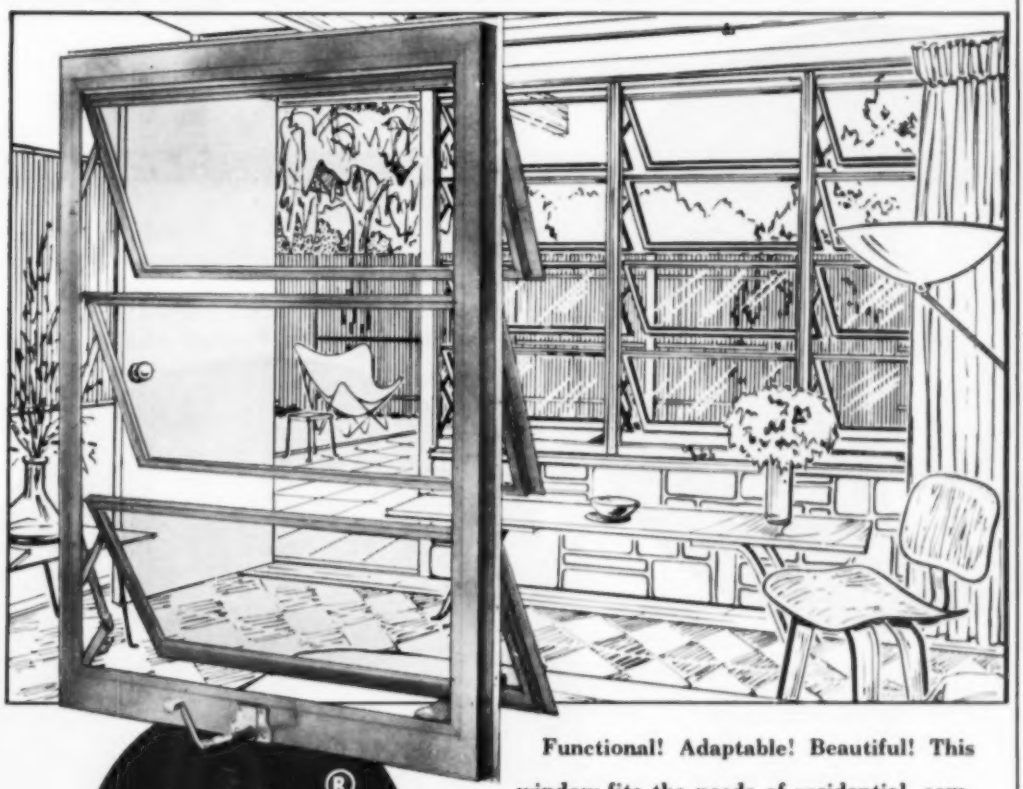
(Continued from page 158)

here to note those methods which though still evolving seem to have the power to develop that spontaneous enthusiasm so necessary to deep understanding. A review of the students' progress through the school may reveal a few of the more important points. A majority of the students come to us from high school, although there is a sizable portion of each class who have had a number of years in a liberal arts college or who are in many cases graduates of such institutions. In a previous issue there was considerable discussion of attempts to find objective tests to screen prospective applicants for training as architects. In our experience no such test has proved entirely satisfactory. For this reason, among others, a very heavy emphasis is placed upon the design aspects of the training during the first year. In this way, the necessity for prior screening is to a large extent eliminated, since the student, during his first year, pretty well screens himself. Almost never is it necessary for the faculty to exclude a student from the second year, since those who do not find themselves dedicated to design, or who possess too limited an ability, quickly transfer to other areas of the university where their talents can be better used. If such a transfer is made at the end of the freshman year the time of graduation is not delayed.

The first year does not differ very widely from the beginning course in design offered in many institutions. This basic course does, however, consume a rather higher portion of the time in the freshman year than in most schools. Nearly half the semester credits and somewhat more than half the student's time is devoted to this work. As in all institutions, it serves two basic purposes: first, to develop in the student a creative way of working which is common to all the arts of design; and second, to break down those inhibitions, preconceptions, and prejudices which he all too often has acquired from his environment and secondary schooling, and to give him again the confidence of youth in his ability to create. It is the intent in the first as well as in

(Continued on page 164)

This Window Wins Architectural Plaudits



Ualco®
U-AL-CO
ALUMINUM

AWNING WINDOWS

Functional! Adaptable! Beautiful! This window fits the needs of residential, commercial and institutional building.

Modern as tomorrow—with slim, horizontal lines of extra-heavy extruded aluminum. Stays beautiful through all the tomorrows because Ualco's exclusive finishing process preserves its satin-smooth beauty forever! Can't rust, rot, warp and never need painting! Will never require upkeep expenses!

PRECISION-ENGINEERED! ★ Exclusive Strip-Proof completely housed Operator has no separate locking device! ★ Integral fin takes brick fin and fin trim! ★ Jiffy-Quick Sill Clips slide in channel from each side; locate as many as wanted, where wanted. ★ Weatherstripped completely with Koroseal! ★ All vents open up to 90 degrees for 100% ventilation; or bottom vent, only, opens for night ventilation! ★ Easily cleaned from the inside!

ASK ABOUT our Engineering Planning Service, designed to assist architects, engineers and contractors in making "take-offs" and solving window problems.

SEE OUR CATALOG IN SWEET'S ARCHITECTURAL FILE 16A OR WRITE US FOR COMPLETE INFORMATION

SOUTHERN SASH SALES & SUPPLY CO., INC.
SHEFFIELD, ALABAMA

Ualco®
U-AL-CO
World's Largest Manufacturer of Aluminum Windows

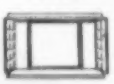
AWNING

CASEMENT

JALOUSIE

DOUBLE HUNG

HOPPER


TWINDUL

PIVOTED

PROJECTED

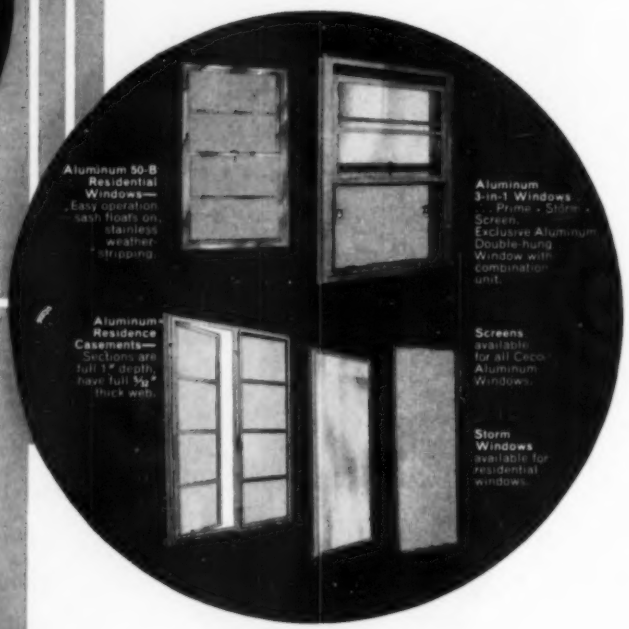
BASEMENT

UTILITY

THE COMPLETE LINE

You can't design with

Series 200-B with hopper ventilator is especially adapted for schools, hospitals and monumental buildings. Custom-made to fit all design needs. Bead glazing provides clean exterior—eliminates replacing glazing compound. Box sections give maximum strength.



Aluminum 50-B Residential Windows—Easy operation, sash floats on stainless weather-stripping.

Aluminum 3-in-1 Windows—Prime • Storm • Screen. Exclusive Aluminum Double-hung Window with combination unit.

Aluminum Residence Casements—Sections are full 1" depth, have full 5/32" thick web.

Screens available for all Ceco Aluminum Windows.

Storm Windows available for residential windows.

Aluminum Projected Windows are suitable for institutional and monumental buildings, such as schools, hospitals, churches. Full range of types and sizes. 1¾" frame and ventilator sections accommodate double glazing; inside bead glazing available.

finer ALUMINUM WINDOWS *than Ceco-Sterling . . .*

Wide Selection—Pioneer Engineering—Exclusive Features—Quality Production Methods

With infinite care quality is guarded all the way in Ceco-Sterling Aluminum Windows. Ceco Window Experts bring you designs with exclusive features developed through years of research . . . Ceco controls quality from raw material to finished product these 5 ways:

1 We make our own extrusions . . . tolerances are controlled.

2 Exclusive aircraft-type welding assures the strongest projected and casement windows on the market.

3 Stainless steel weatherstripping in double-hung windows assures a superior weatherseal. Double-contact weathering provides a tight seal on projected and casement windows.

4 Interlocking mullions of double-hung types mean maximum rigidity. Installation is simplified.

5 Quality hardware is standard with every window.

Ceco offers Aluminum Windows as companion products to its broad Steel Window line, forming the world's largest line-up of metal windows. Now from one source you can choose the right window to fit your design needs. So call on Ceco for Aluminum or Steel Windows. Our Experts will help you plan the best installation of the window you select—will help you save, too. See Sweet's File for details and address — write Ceco general offices for illustrated literature.

CECO STEEL PRODUCTS CORPORATION
Offices, warehouses and fabricating plants in principal cities
General Offices: 5601 W. 26th Street, Chicago 50, Illinois

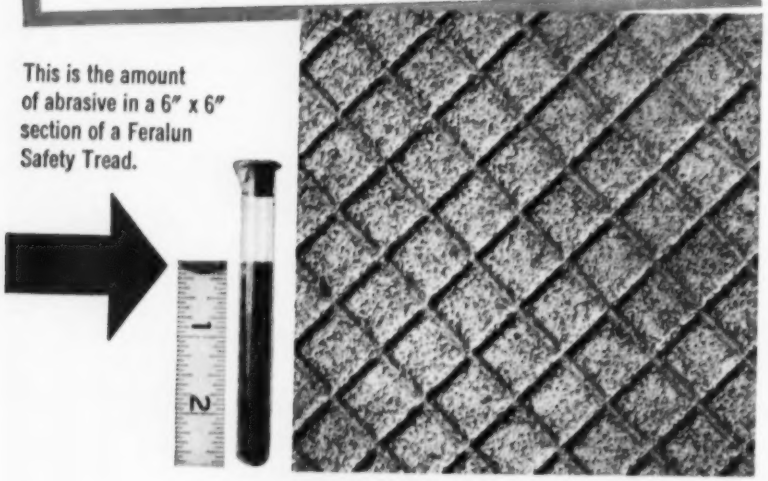
In construction products
CECO ENGINEERING
makes the big difference

The "Test-Tube" Test* Shows Why

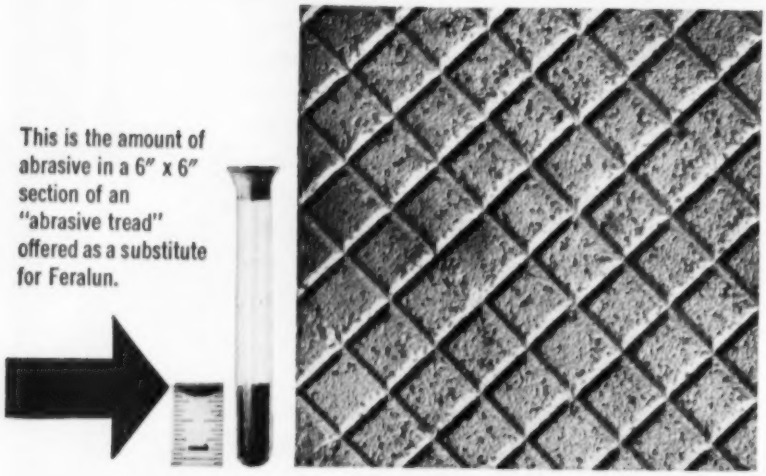
FERALUN TREADS

DO NOT WEAR SMOOTH

This is the amount of abrasive in a 6" x 6" section of a Feralun Safety Tread.



This is the amount of abrasive in a 6" x 6" section of an "abrasive tread" offered as a substitute for Feralun.



The life and non-slip effectiveness of an abrasive tread depend on the amount of abrasive it contains and on the even distribution of the abrasive over the wearing surface. To many, the two treads above may look alike, but when the abrasive is removed and compared the difference between them becomes apparent.

For maximum safety and longest life, insist on Feralun for treads, nosings, thresholds, floor plates and elevator sills.

SEE SWEET'S CATALOG 1954 — 12b/Am

*After the pieces were photographed, sulphuric acid was used to dissolve the iron. The residue (abrasive) from each piece is shown in the test tubes.

AB116

AMERICAN ABRASIVE METALS COMPANY • IRVINGTON 11, N. J.

out of school

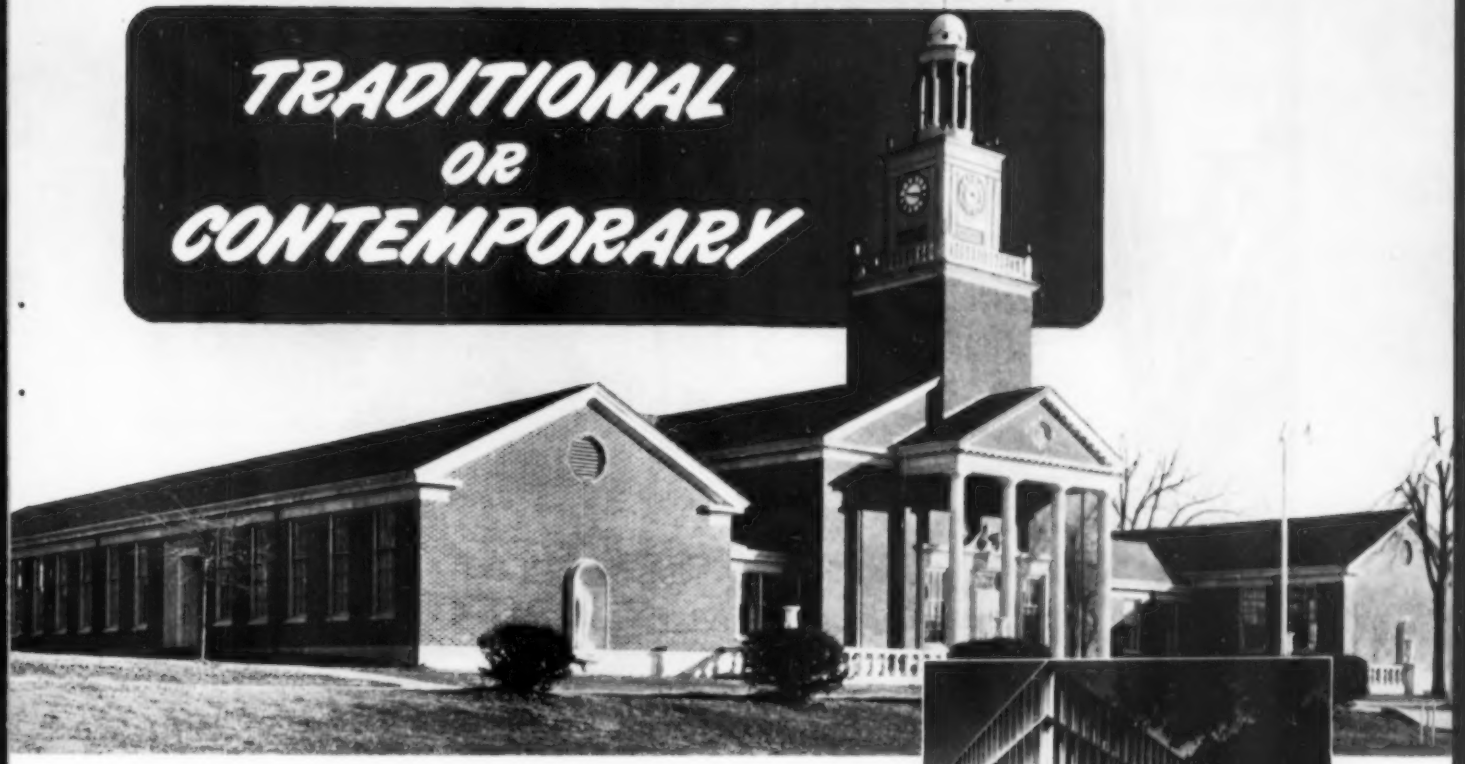
(Continued from page 160)

the later years to encourage the development of a creative spirit and orderly vision. These habits of thought and of vision are not to be gained through the mere accumulation of factual knowledge nor by the imposition of dogma, but can only be gained through repeated personal experience. The emphasis is placed, therefore, on experimental essays in line, color, space, and structure in which are gained as by-products those necessary skills of drafting, descriptive geometry, and perspective. In the discussion of the role of light and shadow, color, and texture in architecture, examples of past masterpieces are constantly used to illustrate the potentialities of light as a medium of architectural design. By such an introduction to the past, the student gains a respect for the masterly creations of earlier centuries without ever being tempted to repeat dead forms. He takes courses in the history of art and architecture only in the later years. This experimental approach to design through repeated personal experiences becomes deeply ingrained during this first year and opens the way to the study of architectural problems.

In the second year, the student is thrown immediately into architectural problems which combine in the most intimate fashion the work in design and in the materials and methods of construction. These carefully and consciously intertwined courses consume nearly two thirds of the sophomore's time. In the lectures on materials and methods a first once-over is given to systems of construction, to the character and qualities of materials, to the problems of acoustics and to heating and ventilating. This bird's-eye view is reinforced by a detailed re-examination of each of these areas in later years in the more intensive courses of steel and reinforced concrete, acoustics, and the mechanical plant. In other words, the unity of the architectural concept is stated and maintained from the very start. To be sure, a different emphasis may be given to the various parts in the successive problems, yet at all times the essential unity is preserved. The

(Continued on page 168)

TRADITIONAL OR CONTEMPORARY



Combine **BEAUTY OF DESIGN** with LOW-COST MAINTENANCE

The design and style of a building may vary, depending upon taste as well as its functional requirements. But regardless of its style, you can enhance its beauty of design, and at the same time assure lowest possible maintenance costs if you specify "Quality-Approved" aluminum windows. No other single building material adds so much to a building's appearance, or subtracts so much from its maintenance budget.

"Quality-Approved" aluminum windows are available in all types—double-hung, casement, awning and projected—to fit your architectural style and plans exactly. They cannot rust or rot, never need painting or costly repairs. They always operate without trouble and they remain beautiful for the life of the building. That's why each year more architects specify more aluminum windows for more jobs.

For a copy of our 1954 Window Specifications Book, see Sweet's (16a/ALU) or write to Dept. PA-7.

TOP. CHRISTIAN CENTER BLDG., MILLSAPS COLLEGE, Jackson, Miss.
Architects: N. W. Overstreet & Associates
Contractor: Howie Construction Co.

BOTTOM. PAN AMERICAN LIFE INSURANCE BUILDING, New Orleans, La.
Architects: Skidmore, Owings & Merrill
Contractor: George J. Glover Co., Inc.

BEFORE YOU BUY
LOOK FOR THIS SEAL

insist on *Quality Approved*

ALUMINUM WINDOWS

Aluminum Window Manufacturers Association

74 Trinity Place, New York 6, N. Y.

MEMBERS: **Alcasco Products, Inc.**, Muskegon, Mich. • **Aluminum Home Products Co.**, Knoxville, Tenn. • **The Wm. Bayley Co.**, Springfield, Ohio • **Ceco Steel Products Corp.** (*Sterling Aluminum Window Division*), Chicago, Ill. • **Cupples Products Corp.**, St. Louis, Mo. • **Fentron Industries, Inc.**, Seattle, Wash. **Michael Flynn Mfg. Co.**, Philadelphia, Pa. • **General Bronze Corp.**, Garden City, N. Y. • **Hunter Mfg. Corp.**, Bristol, Pa. • **Metal Arts Mfg. Co., Inc.**, Atlanta, Ga. • **Miami Window Corp.**, Miami, Fla. • **Reynolds Metals Co.** (*Parts Division*), Louisville, Ky. • **J. S. Thorn Co.**, Philadelphia, Pa. • **Timm Industries, Inc.**, Los Angeles, Calif. • **Universal Window Co.**, Berkeley, Calif. • **Ware Laboratories, Inc.**, Miami, Fla. • **Windalume Corp.**, Kenvil, N. J.

A Gallery of Clients

Naturally, you design your houses to fit your clients' tastes and personalities. To discover the kind of house that will suit them best, follow them into an art gallery. Coming along?

This couple would prefer a traditional-looking house. But no matter how many gateposts they insist on, don't think they'll be satisfied with traditional inconveniences. They'll want modern plumbing, modern lighting and Carrier Weathermaker air conditioning.

They like children. But they'll still be bound to appreciate the quiet and privacy that Carrier air conditioning brings with it. Their windows will be closed to neighborhood noises. And their children can romp about the playroom in perfect comfort, with the door shut.

New ideas interest this family. They recognize the advantages of the Weathermaker Home idea. They know that air conditioning allows you to develop a floor plan that's compact, to group windows, to eliminate them on some walls, to arrange the whole house for convenience.

These are nature lovers. They admire trees and sunsets in paintings. Give them big windows. Let them look at nature to their hearts' content. And include the Carrier Weathermaker so they can do their looking comfortably —whether the weather is scorching hot or biting cold.

No gee-gaws for this couple. They demand logic and simplicity. If it isn't functional . . . out with it. They'll be fond of the Weathermaker Home idea of designing the house around the air conditioning. It lets them eliminate wings, screens, breezeways, porches and attic fans.

Well! Comfort is everybody's favorite! And this Carrier Weathermaker really delivers comfort. It heats and cools, keeps you comfortable in every season. Just 3 feet square and 5 feet high, it fits in basement, closet or utility room. It burns gas or oil, cools with electricity.

Carrier

air conditioning • refrigeration • industrial heating

CARRIER CORPORATION, 320 S. Geddes St., Syracuse, New York

I recognize some of my clients. Please send me your Weathermaker Home idea booklets.

Name _____

Street _____

City _____ State _____

Landing Pattern for the Age of Flight:

Terrazzo

Visibility, several thousand square feet; humidity, no matter; temperature, unimportant; maintenance instructions, simple. That's TERRAZZO, an airport's ageless floor. Countless arrivals and departures can't harm TERRAZZO; countless sessions with maintenance personnel leave it bright and shining.

Marble-hard TERRAZZO is as versatile as an architect's imagination, delivering an infinite variety of color-and-pattern combinations for floor, wainscot, wall and stairway.

Wherever long life is required and minimized upkeep is desirable, specify low-annual-cost Portland Cement TERRAZZO. Free AIA Kit upon request.

SEE OUR CATALOG IN SWEET'S

THE NATIONAL TERRAZZO AND MOSAIC ASSOCIATION, INC.

SHERATON BUILDING, 711-14th STREET, N. W., WASHINGTON 5, D. C.

out of school

(Continued from page 164)

student, through three quarters of this year, studies the design and construction of simple buildings which lend themselves naturally to the use of wood. The week-end house, the three-bedroom residence, or a simple city building between party walls are studied simultaneously in structural balsa-wood models as well as in sketches. In fact, the detailing of these buildings chronologically follows the study model which is normally made at ¾" to the foot. The first designs, done individually by each student, are followed by teamwork in which larger models are analyzed in great detail in both structure and finish and whole bays are built at full size in the workshop. By the spring of his sophomore year the student is therefore well aware of the indissolubility of structure, form, function, and the esthetic aspects of design. He has developed a sense of structural discipline and has acquired a good grounding in wood construction which will stand him in good stead in the years to come. The careful and prolonged study of each problem with painstakingly complete detail in wall sections, plans, and structural models awakens a sustained response and sets the student on the road to serious professional work. In his final problem of the year he is introduced to the design of outdoor space and to the problems of relating larger and somewhat more complex structures to a rolling landscape. A dormitory based upon a well system (rather than a corridor) is used as a building unit which may be repeated in various combinations to produce groupings around courts of differing sizes.

In the third year, the emphasis changes to some degree in that, instead of the small individual unit, the interest is focused upon the development of a neighborhood. All problems given during the year revolve around this central theme. At this point it should be noted that it is not the custom of this school to give faculty prepared programs to the students. It is, instead, the intent wherever possible to ask the class by a breakdown of the assignments to investigate the subject in the field and in the library. It is their

(Continued on page 170)

"Tailored to the Tube" means that Certified Ballasts are designed to match accurately all of the requirements of the particular tube in the fixture.

And so, "Tailored to the Tube" means Better Lighting Performance in these $-saving ways:

FULL LIGHT OUTPUT • LONG BALLAST LIFE • LONG LAMP LIFE • FREEDOM FROM OVERHEATING QUIET, TROUBLE-FREE OPERATION

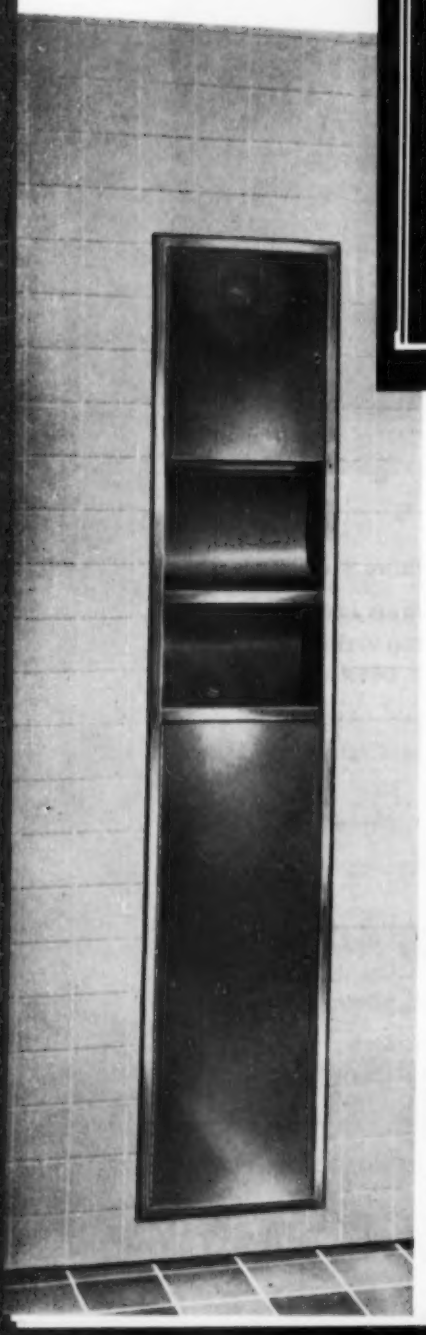
Every lighting fixture should have the advantages and safeguards that Certified Ballasts provide.

Today, the large majority of fixtures for general service use Certified Ballasts.

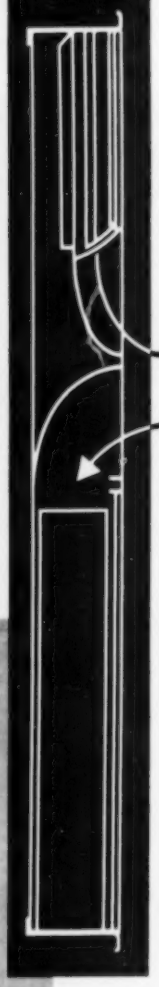
CERTIFIED BALLAST MANUFACTURERS

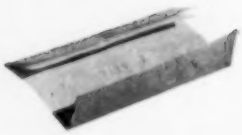
**Nine leading manufacturers make CBM CERTIFIED BALLASTS.*

2116 KEITH BLDG., CLEVELAND 15, OHIO



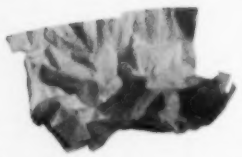
SAVE SPACE...





dispense

and dispose



in one recessed unit

specify Scott-designed fixtures

Saving space is an important element in washroom design. Modern, functional, Scott-designed Fixtures help eliminate traffic-jams—make for cleaner, easier maintenance.

A full-color booklet on functional washroom design and planning is now available. For your free copy, mail this coupon today.

SCOTTISSUE® TOWELS

Symbol of the right kind of washroom

SCOTT PAPER COMPANY
Dept. PA-8, Chester, Pa.

Please send me your full-color booklet.

Name_____

Address_____

Company_____

City_____ State_____

out of school

(Continued from page 168)

research and their conclusions which make the program. As an example, as a base for the study of the neighborhood housing the students are asked to report upon various blocks in the city which are within walking distance of the university. These reports present in models and in graphic form, information on the size, kinds, and quality of the housing, the availability of schools and recreation areas, of shopping, and something of the family composition and income range of the people living there. Nothing evokes more effectively a sense of the social basis of architecture than to ask the student to make such an examination of an older area. He returns fired with an enthusiasm for finding a better solution for the future. In the course of his search for such solutions he examines and analyzes the solutions to similar problems in the same graphic terms as his own personal investigation including models at the same scale as those of the existing area. Such visual comparisons offer a dramatic basis for the discussion of problems of density, of layout, the accessibility of schools and work and make otherwise dull and meaningless standards living realities to the future architect. These analyses are followed by design studies of mixed groups of row housing, walk-ups and high-rise buildings on a site which can be easily visited and for which the class has already prepared a topographic model. A similar procedure is followed in the development of the program for the neighborhood school and local shopping center. Rough individual studies are made early of possible neighborhood layouts with a most serious attempt made to assign the principal sites for these structures. From the many designs submitted two or three are chosen for final development. It is then, on these tentative sites, that each student designs a school and a shopping center. Following these detailed designs a restudy is made in group work of the total neighborhood presented in model form. It should be noted that running parallel throughout the first half of this year is a course on landscape construction which permits the students to develop the grad-

(Continued on page 172)

Plan

beautiful

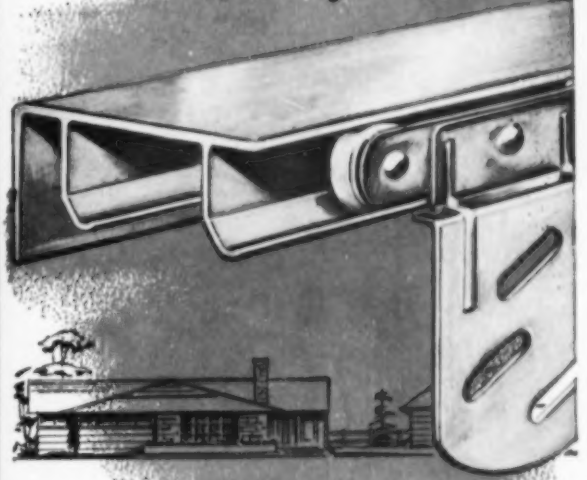
philippine mahogany

for paneling, fixtures and trim. Write for literature.

PHILIPPINE MAHOGANY ASSOCIATION, INC.
111 West Seventh Street, Los Angeles 14, Calif.
PHILIPPINE LUMBER PRODUCERS' ASSOCIATION, INC., MANILA

Sterling HARDWARE

used in buildings where quality counts!



SLIDING DOORS ADD BEAUTY...SPACE...
Sterling HARDWARE ADDS "QUALITY BY DESIGN"

Simple to install . . . better when installed. No expensive callbacks due to failure of operation because Sterling Sliding Door Hardware is better designed. It has been tested and proved through years of continued service in homes everywhere.

Sterling Sliding Door Hardware is available in **Complete Packaged Sets** to fit most door openings. Write Today For Catalog.

STERLING HARDWARE MFG. CO.
2345 WEST NELSON STREET • CHICAGO 35, ILLINOIS

Sterling means Quality

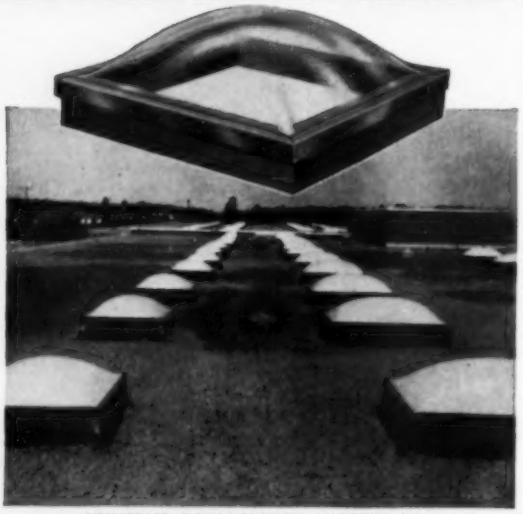
Sterling HARDWARE

NATIONALLY ADVERTISED in Leading Magazines
SEE OUR CATALOG IN SWEET'S:
Architectural File • Light Construction File
VISIT OUR DISPLAYS:
Architects Samples Corporation, N.Y.C.
Chicagoland Home Building Center

THE ARISTOCRAT OF ALL PLEXIGLAS® DOMELITES

the best in modern daylighting

most efficient • low cost

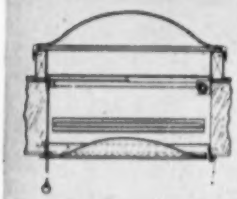


COVINGTON ST. ELEMENTARY SCHOOL, LAURINBURG, N. C.

NATURAL LIGHT EXCELS ALL OTHER LIGHT
Why Not Pipe It Into Your School-Rooms, Your Hospitals, Your Factories — Through

vanco domelites

Standard Details of VANCO Domelite — Ceilinglite, Skyshade and Fluorescent Light Combination



FRAME DETAIL

Light up your corridors and your workrooms . . . Bring daylight into those interior rooms and dark corners — IT PAYS —

Insist on VANCO domelites . . here is why —

1. VANCO Domelites are designed and manufactured by E. Van Noorden Company, makers of the famous VANCO Skylights since 1873 — over 80 years of know-how experience are incorporated in their VANCO Domelite design.
2. VANCO spells excellence of workmanship and reliability — VANCO Domelites spell permanency.
3. PLEXIGLAS® dome and metal frame are factory assembled, packed and shipped as complete unit. No haphazard field assembly.
4. Each unit guaranteed weather-tight.

VANCO Ceilinglites, when used with Domelites, provide excellent insulation. Clear Plexiglas® Domelite and translucent Plexiglas® Ceilinglite make the best combination for diffusing light.

• DOME-AIR VENTILATING DOMELITE
— other Vanco Products —
• UP-BLAST VENTILATORS
• CUPRAFACE AND CUPRATWEEN
• DURATITE SKYLIGHTS

E. VAN NOORDEN Company
Skylight Designers and Constructors since 1873
100 MAGAZINE STREET BOSTON 19, MASS.

Send for your copies of free literature. Avail yourself of VANCO's free Daylight Engineering Service.

out of school

(Continued from page 170)

ing on each of the problems. In fact, on all problems from the third year on, a grading plan is required. With the constant repetition of this requirement the architect as well as the landscape architect begins to acquire that necessary sympathy for the ground and for the relationship of his structures to it.

Throughout the first three years all students have gone through a common experience, but in the fourth and first half of the fifth years the student is allowed to choose from among seven available critics. Each critic is permitted to give problems of his own choice. The common requirements are only that problems are due at the same time, are judged by the same juries, and in some cases have similar requirements as to the amount and character of technical work in details or structure to be shown. The special interests of the critics tend to produce in each of the studios a certain recognizable and individual quality. On each of the four major problems, one of the seven critics is always a visitor whose fresh ideas are a constantly changing stimulus to faculty and students. For the most part, the problems are relatively complex single structures, although one studio as a matter of policy always gives problems of a civic design character in which there is considerable collaboration with the graduate students in city planning. Since students, during their first three years, become abundantly familiar with the qualities and foibles of the critics through the open jury system and other contacts, it is natural that they would tend to choose men with whose way of working they feel they might be most sympathetic. This freedom of choice was begun with very considerable misgivings since it seemed to encourage unreasonable and intensive rivalry among the studios while at the same time, since the studios are limited to fifteen students each, students getting only their second or third choice of critic might feel somewhat disgruntled. After three years none of these fears appears to have been justified. On the other hand the advantages have proved greater than anticipated. Foremost among these

(Continued on page 176)

Ceiling by **Benjamin Electric Manufacturing Co.**, Des Plaines, Ill.

Shedding more light on school subjects

Every pupil in this classroom enjoys bright, shadowless, glareless light—no matter where his or her desk is! This ideal lighting is made possible by a ceiling of translucent BAKELITE Rigid Vinyl Sheet in corrugated sections.

The panels, concealing continuous strip units of fluorescent lamps, rest on a light metal frame. They are quickly removable for easy cleaning, lamp replacement, or access to pipes, ducts and other equipment. These panels are very light, resistant to cracking, discoloration, warping, moisture, oil and combustion. They do not interfere with the operation of sprinkler systems, for the entire plastic ceiling will soften and fall at combustion temperatures.

There are many similar applications for BAKELITE Rigid Vinyl Sheets—such as screens, signs, wall panels, lamp shades.

Why not learn more about these modern materials? They may have answers for your problems. For further information about them write Dept. YD-58.

BAKELITE
TRADE-MARK
RIGID VINYL SHEETS
TRADE MARK
BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corporation
UCC
30 East 42nd Street, New York 17, N. Y.

simulated brick and stone

- Durable
- Low Cost
- Fireproof
- Needs no painting

PATTERN TYPES

1. Coarsed ashlar—split face
2. Random ashlar—smooth planer
3. Random ashlar—split face
4. Handmade Roman brick type
5. Random length coursed
6. Sand floated reinforced stucco

Beauty Treatment for Buildings—old or new

It costs so little to give buildings the beauty of simulated brick or stone exteriors. Choose from a wide range of colors—far wider than with natural building stone or brick.

Have the charm of an ashlar stone pattern, with a beautiful split face or other natural stone texture. Or the distinctive appearance of handmade Roman-type brick, in a wide variety of colors unavailable in any other way.

You get this prize winning beauty at a fraction of the cost of natural stone or of brick.

applied to last with

KEYMESH

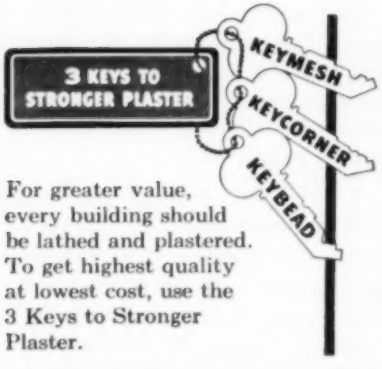
GALVANIZED REINFORCING LATH

Simulated brick and stone are actually slabs of reinforced concrete. They combine the strength and durability of concrete with the beauty of brick and stone.

They are weatherproof because there are no actual mortar joints. They never need painting, because color is obtained by using crushed brick and stone aggregate. And they add strength to any building. They will not burn, so they add real fire safety to your building.

These finishes are reinforced with Keymesh, which has demonstrated its exceptional value as reinforcement in concrete, stucco and plaster through the years.

For the greatest value in building exteriors, see your Simulated Stone or Brick applicator.



For greater value, every building should be lathed and plastered. To get highest quality at lowest cost, use the 3 Keys to Stronger Plaster.

KEYMESH lath for over-all reinforcement. Made of galvanized woven wire. Especially recommended for ceiling construction.

KEYCORNER strip lath, preformed to fit snugly in corners. Lies flat when applied to joints. Galvanized to prevent rust streaks.

KEYBEAD corner lath with precision formed bead for outside corners. Open mesh assures strong, solid plaster corners.

KEYSTONE STEEL & WIRE COMPANY

Peoria 7, Illinois

Keymesh • Keybead • Keycorner • Keystone Welded Wire Fabric • Keystone Nails Tie Wire • Keystone Non-Climbable and Ornamental Fence

For prices and complete details, see your local simulated brick or stone contractor

NOW...

AN INSPIRING IDEA BOOK WITH
A FRESH NEW APPROACH

ARCHITECTURAL DETAILING

By CALEB HORNBOSTEL,
Architect and Teacher
and ELMER A. BENNETT
Of PROGRESSIVE ARCHITECTURE *Staff*

Introduction by RICHARD J. NEUTRA

THIS big new idea book explains how complicated design problems have been handled with results that are graceful, functionally admirable and, where necessary, economical. It is the very first published collection of Elmer Bennett's famous "Selected Details" . . . the most popular single feature in any architectural magazine, a favorite of **Progressive Architecture** readers for 15 years.

Striking full-page illustration plates with sharp, clear halftone photographs and Elmer Bennett's popular detail line drawings of sections, elevations and blow-ups show exactly how you may obtain scores of desirable modern effects in solving specific details of design. You get literally hundreds of sound, workable ideas for building types ranging from the small home to a municipal auditorium!

Organized for constant reference and use, the book is divided into two parts. Part One covers details inherent in particular building types . . . banks, schools, theaters, auditoriums, offices, laboratories, residences, etc. Part Two contains details inherent in all types of buildings . . . such as fireplaces, stairs, doors, windows, lighting and ventilation.

As an extra helpful feature, each chapter contains a unique supplementary index. For example, the chapter on windows refers you to every instance throughout the book where windows are discussed. There is also, of course, a complete index at the back of the book.

230 pages, profusely illustrated, $12.00

Mail FREE-Examination Coupon *TODAY!*

REINHOLD PUBLISHING CORPORATION, Dept. M-703
330 West 42nd Street, New York 36, N. Y.

As soon as it comes from the binder, ship me ARCHITECTURAL DETAILING for 10 days' examination on approval. In 10 days I will remit $12 plus postage, or return book and owe nothing.

Name .....

Address .....

City .....Zone....State.....

☐ SAVE POSTAGE! Check here if you enclose $12; we pay postage. Same return and refund privilege.

out of school

(Continued from page 172)

has been the variety of experience offered the student by the initiative of the critics in developing programs of which they have specialized knowledge. Such freedom to experiment constantly tested before the whole faculty and student body, is the finest assurance of individual and collective growth.

This independence, fostered so assiduously in earlier years, meets its final test in a 15-week thesis based on a program written by the student. The final drawings (prepared with only three criticisms) must demonstrate the ability of the designer to prepare contract drawings and specifications, and to calculate the structure and mechanical plant. This start on a lifetime of education for the profession, it is hoped, will leave the student with confidence, a deep-rooted experimental sense, a conviction of the unity of architectural conception, an open mind to new developments, and some understanding of the process of architectural evolution which will allow him to make his own decisions and which will establish him in time as an independent man and architect.

G. HOLMES PERKINS

notices

remodeled store

LEO V. BERGER, Architect-Engineer of Brooklyn, N.Y., was Architect for remodeling of McCrory's Brooklyn store illustrated in the advertisement of BRASCO MANUFACTURING COMPANY in May 1954 P/A *(Page 211)*. The credit printed under the picture was incorrect.

P/A congratulates

C. W. LITTLE, new General Sales Manager of VIRGINIA METAL PRODUCTS, INC., steel fabricating firm with headquarters in Orange, Va. Virginia Metal Products is a subsidiary of Chesapeake Industries, Inc., manufacturers of movable steel partitions, steel doors and frames, library bookstacks, and conveyors for office buildings and hospitals.

BRIXMENT

Better Mortar for Blocks

WHY IS GOOD MORTAR IMPORTANT?

Because of their size and weight, concrete blocks require mortar with "body", plasticity and water-retaining capacity. Brixment meets all these requirements. It has the *body* necessary to support the weight of the unit and hold it up to the line. It has the *plasticity* necessary to prevent the mortar from falling off the long head joint, while the block is being placed in the wall. It has high *water-retaining capacity*, which gives the bricklayer more time to shift and adjust the block to its final position before the mortar stiffens.

It is the combination of these characteristics that makes Brixment the leading masonry cement for concrete block as well as for brick.

Gibraltar Life Insurance Building, Dallas

REYNOLDS

Architects: Thomas, Jameson & Merrill, Dallas

General Contractor: J. W. Bateson & Co., Inc., Dallas

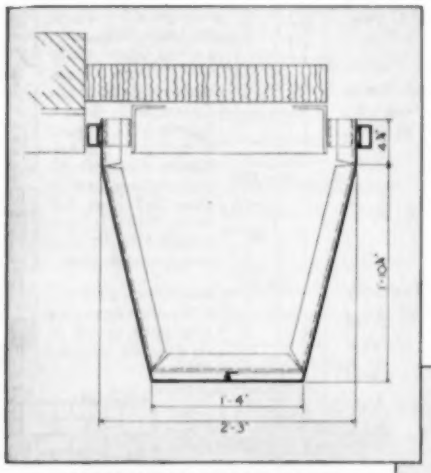
Architectural Aluminum Fabricator: Usona Manufacturing Company, St. Louis;
Erector: R. M. Sedwick Company, Dallas

Aluminum Applications in This Building:

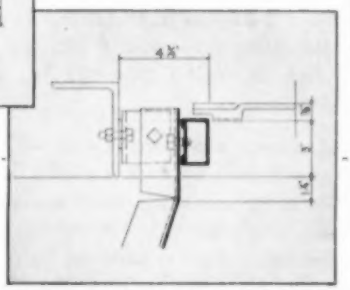
Column Covers,	At the
Doors,	Main Entrance:
Fins,	
Windows,	Lettering,
Spandrels,	Tubing,
Mullions,	Flagpoles,
Sills,	Fascia,
Louvers,	Soffit,
Light Coves	Other trim

REYNOLDS ALUMINUM SERVICE TO ARCHITECTS

Reynolds Architect Service Representatives offer specialized assistance on aluminum design problems, on applications of standard aluminum mill products, and on the use of commercially fabricated aluminum building products. They can help to coordinate varied aluminum requirements for procurement efficiency and economy. Please address inquiries to . . . Architect Service, **Reynolds Metals Company,** Louisville 1, Kentucky.



HORIZONTAL CROSS SECTION OF FIN



CONSTRUCTION DETAIL OF FIN AT SPANDREL

SEE "MR. PEEPERS," STARRING WALLY COX, NBC-TV.

ALUMINUM

Warp-proof!

ALL-STEEL
KENNAFRAME
for sliding door pocket installations

THE OLD WAY
Wood frames warp, causing sliding doors to stick or bind.

THE KENNAFRAME WAY

Kennaframe can't warp because it's all steel. Prefabricated, adjustable with track already installed in header for quick, trouble-free installations. Versatile Kennaframe takes all wall and trim applications. Select from two all-steel series. Write for free circular No. 89, Kennatrack Corporation, Elkhart, Indiana.

p/a reviews

books received

Urban Traffic. A Function of Land Use. Robert B. Mitchell and Chester Rapkin. Columbia University Press, 2960 Broadway, New York 27, N. Y., 1954. 256 pp., $5

The Modern Renaissance in American Art. Ralph M. Pearson. Harper & Brothers, 49 E. 33 St., New York 16, N. Y., 1954. 300 pp., illus., $6.50

Engineering Contracts and Specifications. Third Edition. Robert W. Abbett. John Wiley & Sons, Inc., 440 Fourth Ave., New York 16, N. Y., 1954. 429 pp., $6

Dwelling House Construction. Albert G. H. Dietz. D. Van Nostrand Co., Inc., 250 Fourth Ave., New York 3, N.Y., 1954. 396 pp., illus., $7.50

Cheskin Color Wheel for Color Planning. Louis Cheskin. The Macmillan Company, 60 Fifth Ave., New York 11, N. Y., 1954. Illus., $5

Idea 54, International Design Annual. Edited by Alvin Lustig. George Wittenborn, Inc., New York 22, N.Y., vol. 2, 1954. 132 pp., illus., $8.50

New Furniture. Edited by Alvin Lustig. George Wittenborn, Inc., New York 22, N.Y., vol. 2, 1954. 139 pp., illus., $8.50

read before building

Quality Budget Houses. *A Treasury of 100 Architect-Designed Houses from $5,000 to $20,000. Katherine Morrow Ford & Thomas H. Creighton. Reinhold Publishing Corp., 330 W. 42 St., New York 36, N. Y., 1954. 221 pp., illus., $4.95.*

Architects who design houses will have to add this book to their shelves, if only in self-defense. The book was written for people who want to build a house, but can't afford to build the house they want. Since this includes almost everybody, and since the book itself is a notable bargain, it is a safe bet that most clients will have studied it carefully before they come into the architect's office.

(Continued on page 182)

TILES by SPARTA

SPARTAN MOSETTES

These unglazed ceramic tiles are fired at high temperature, assuring ruggedness, impermeability, slip-resistance, and a high degree of vitrification. Available in sizes 1x1, 2x1, 2x2, ¼" thick in the following wide range of colors: Golden Pheasant, Ember Glow, Light Grey, Dark Grey, Brown, Red, Light Green, Dark Green, Spartan Blue, Ivory and Black. The following Mosette colors are supplied in sizes 2x1 and 1x1 only: Pearl Grey, Cream, Pink, Canary and Dresden Blue.

Mosettes are extremely versatile and easy to set in irregular shaped spaces.

Write for complete information.

Practical for Floors in
SCHOOLS • HOSPITALS • INSTITUTIONS
also SWIMMING POOLS

THE SPARTA CERAMIC CO.
P.O. BOX 4, EAST SPARTA, OHIO

REDUCES VOLTAGE DROP
CUTS POWER LOSSES
INCREASES PRODUCTION EFFICIENCY

FA Power Plugin BUSDUCT

WITH EITHER COPPER OR ALUMINUM CONDUCTORS

Include this safe, dependable system of power distribution in all your plans for new or modernized industrial construction. You'll find it a splendid investment in greater plant efficiency or economy of operation — one that your client will appreciate.

FA POWERPLUGIN Busduct has been specifically designed to give greater flexibility and efficiency of plant operations by making power available where and when it is needed. It reduces voltage loss to a minimum by eliminating long lead-ins, cuts maintenance costs and provides other savings. Too, it is 100 percent salvageable.

Approved by the Underwriters' Laboratories, Inc., for label service, FA Powerplugin is made in standard 10 foot lengths with a plug-in outlet every foot of the way or alternately on two sides. It enables machines to be re-located or regrouped without disrupting production, thus facilitating plant operation.

Another feature is that it can be arranged to fit almost any electrical requirement. Sections can be run horizontal or vertical, at floor level or overhead.

Capacities of FA Powerplugin are 250 to 1,000 amps (1,200 and 1,500 amps also available), 600 volts AC or less with Klampswitchfuz, Shutlbrak or Circuit Breaker plugin units for 200 amps or less.

If you are planning a new plant, or modernization of an existing one, include FA Powerplugin in your plans and specifications. For additional information about this modern, more efficient and flexible system of power distribution, contact your nearest FA representative, listed in Sweet's, or your nearest FA distributor. Or write for Bulletin No. 720.

Features of FA Powerplugin

FA Powerplugin is made of 16 gauge steel with attractive pearl gray enamel finish. Insulators are one piece glazed porcelain with steel channel supports riveted into position.

Flush type, hinged cover plug-in openings, simplified, adjustable, two screw type fasteners for plug-in units, two sliding type mounting brackets per section for hanging as desired, electro-silver plated contact surfaces at joints with two or four brass jam bolts with phosphor bronze cup washers in elongated fastening holes are other features. Either Copper or Aluminum Conductors available.

BOX 357, MAIN P. O.
ST. LOUIS, MISSOURI

FA *Frank Adam Electric Co.*

Makers of: BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER

Simplify "spec" writing by specifying RUSSWIN

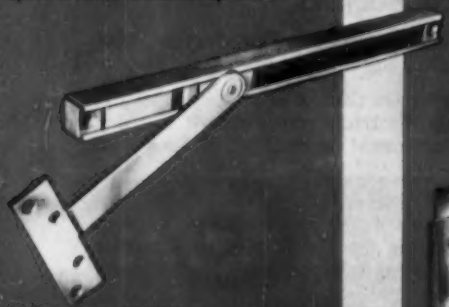
A complete line of Builders' Hardware

RUSSWIN "400" Door Closer

Ideal concealed for an unobtrusive yet effective door closer with the RUSSWIN "400". Product-built, it has no equal for strength, yet it's so compactly designed that the mach-concealed unit projects only 1⅛" from door. The "400" features 4 speed control and silencer adjustment.

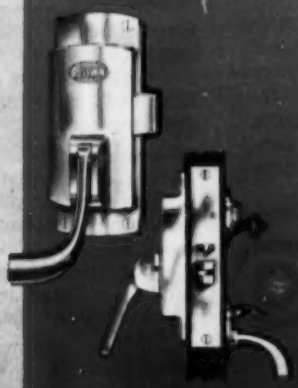
RUSSWIN Surface Door Closer

This liquid type door closer equipped with 4-bearing crankshaft is designed to operate smoothly, dependably, under high frequency service for years. Brackets available for special mountings . . . also hold-open attachments and fusible links.



RUSSWIN Triple-Grip Door Holders

The adjustable friction slide of the No. 600 has an exclusive triple-grip action which more than doubles friction area . . . lowers pressure needs, prolongs life. Other models available.



RUSSWIN Exit Bolts

A complete line . . . includes heavy duty flat type, side bolting heavy duty, top and bottom, side bolting. Equipped with key locking devices and spring type top and bottom latch bolts.

RUSSWIN Adjustable Anti-Friction Pivot Hinges

Exclusive construction floats heavy doors (up to 350 lbs.) easily and without strain. Roller bearings carry the radial load, ball bearings, the thrust load.

SINCE 1859

RUSSWIN®

DISTINCTIVE HARDWARE

Russell & Erwin Division
The American Hardware Corporation
New Britain, Conn.

reviews

(Continued from page 180)

The architect who is thus forced to buy the book will find that it is useful to him in other ways, containing as it does an excellent selection of recent work in the small and not-so-small house field. The $20,000 limit is not as restrictive as one might expect, and houses up to 2800 square feet are included. (The 2800-square-foot house was built in Atlanta in 1950 for $18,200, or $6.50 per sq. ft!). In architectural quality, the average is fairly high, considering the price limitations and the fact that many otherwise eligible homes had already been published in the authors' previous book, *The American House Today*.

The houses are shown with an average of two or three photographs each; a few are shown in drawings only. All plans are reproduced at 1/16″ scale. Information about the houses is unusually complete, consisting of Cost Facts, Materials, Plan Facts (the owner's requirements, nature of the site, etc., in considerable detail), Economies, and Budget Suggestions (for further savings).

A notable feature of this book is its cost data. Cost figures, unless properly qualified, can be very misleading and they are therefore usually omitted. But this easy solution was hardly suitable for a book with the title *Budget Houses*. The authors therefore buckled down and gave the figures as fully and carefully as possible. First they explain exactly what is included and what is not included in the cost. For each house they give the cost, the date of construction, the area of the house proper, the area of basements, porches, etc., and the cost per square foot. Factors for correcting to 1954 costs are listed and a rough method of correcting for regional cost differences is described.

The text is much more than the usual introduction. It runs continuously through the book and offers sound advice to the person intending to build. Subjects covered are Site, Use of Space, Expansion, Structure, Materials and Equipment, Ready-Built Houses, Co-operatives, Owner as a Builder, Architect and Builder. The chapters on planning for future ex-

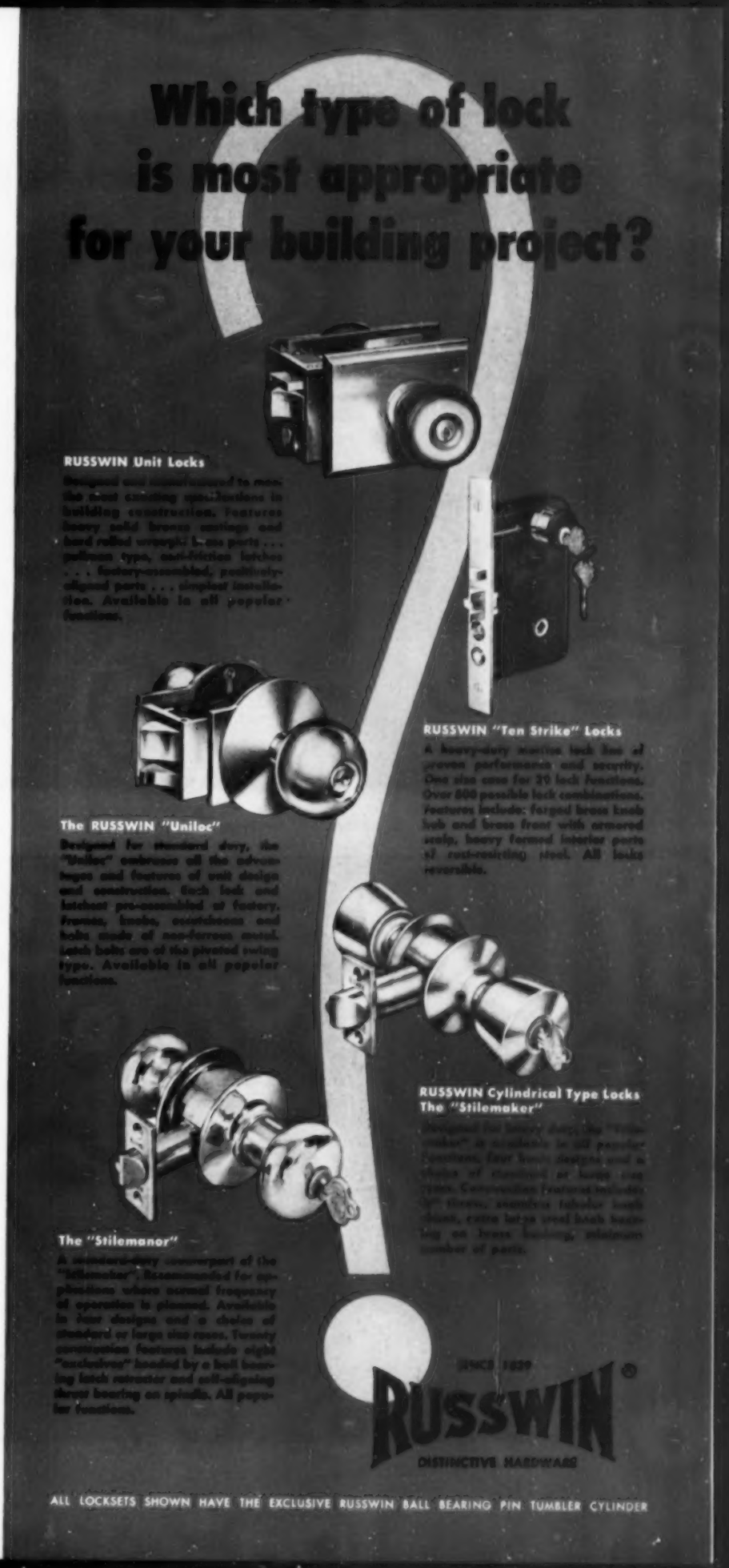
pansion and building your own house are particularly valuable, since there is widespread misunderstanding of these subjects on the part of the public.

The advice given throughout is generally excellent, such as "see an architect," "don't buy too small a lot," and "stick to stock sizes and standard materials." This reviewer, however, would question the authors' repeated insistence that economy results from the use of exposed structure and natural finishes. In a book which so strongly emphasizes costs and in which every chapter is subtitled "How to save" on this or that, it is surprising to find that the relative costs of common building materials and constructions are nowhere given. This is a subject on which the public in general is very poorly informed.

The publication of a new book of houses offers an opportunity for some stock-taking. Comparison with *Homes* (Reinhold, 1947) shows that we have come a long way in seven years. There has been a striking increase in the popularity of flat roofs, which are used on about half of the recent houses. There are only a dozen or so symmetrical-gable roofs of sufficient pitch to count as such. The low-pitched hipped roof which was very prominent in the earlier book has disappeared entirely. The influence of Mies van der Rohe, hardly visible in 1947, is an important factor in the current book. Three houses in the Chicago area derive from this source; one of them is so "pure" that it turns its principal glass wall, unprotected of course, toward the west. Nevertheless this beautifully composed house by Crombie Taylor and Gyo Obata is one of the most attractive in the book, as is Robert Rosenberg's serenely beautiful house in East Hampton.

Among other houses that appealed to this writer are three characteristic flat-roofed ones by Neutra and two characteristic butterfly-roofed ones by Stubbins; also a very sensitive design by Henry Hill, a strikingly dynamic one by Craig Elwood, and a tiny one (650 square feet) by Paul Rudolph.

JOHN HANCOCK CALLENDER


Which type of lock is most appropriate for your building project?
RUSSWIN Unit Locks
RUSSWIN "Ten Strike" Locks
The RUSSWIN "Uniloc"
RUSSWIN Cylindrical Type Locks
The "Stilemaker"
The "Stilemanor"
SINCE 1839
RUSSWIN
DISTINCTIVE HARDWARE
ALL LOCKSETS SHOWN HAVE THE EXCLUSIVE RUSSWIN BALL BEARING PIN TUMBLER CYLINDER

Utica Mutual Insurance Company's in New Hartford, N. Y.,

HERCULITE DOORS, surrounded by large panes of Herculite Tempered Plate Glass, and the clear Plate Glass windows beyond, give this reception room a cheerful, open atmosphere.

new headquarters building features PITTSBURGH GLASS

THIS NEW, MODERN building of the Utica Mutual Insurance Company is glazed with approximately 400 large Pittsburgh Polished Plate Glass Twindow units—"the windows with built-in insulation"—for maximum efficiency, good employee morale and adequate lighting. The high insulating value of Twindow reduces the load on the air conditioning and heating system. Among the other Pittsburgh products utilized in this building are Polished Plate Glass interior partitions and doors, Pittsburgh Doorways, Mirrors, Pittco De Luxe Metal, Gunmetal Carrara Structural Glass for the reception desk. Architects and Engineers: Childs & Smith, Chicago, Illinois.

THIS PARTIAL VIEW of the private dining room shows the use of Twindow units. Here, as in the other areas of the building, Twindow is set in Pittco Metal. Summer or winter, employees can eat, relax and enjoy the outside view, because of the exceptional insulating properties of Pittsburgh's Twindow.

Design it better with **Pittsburgh Glass**

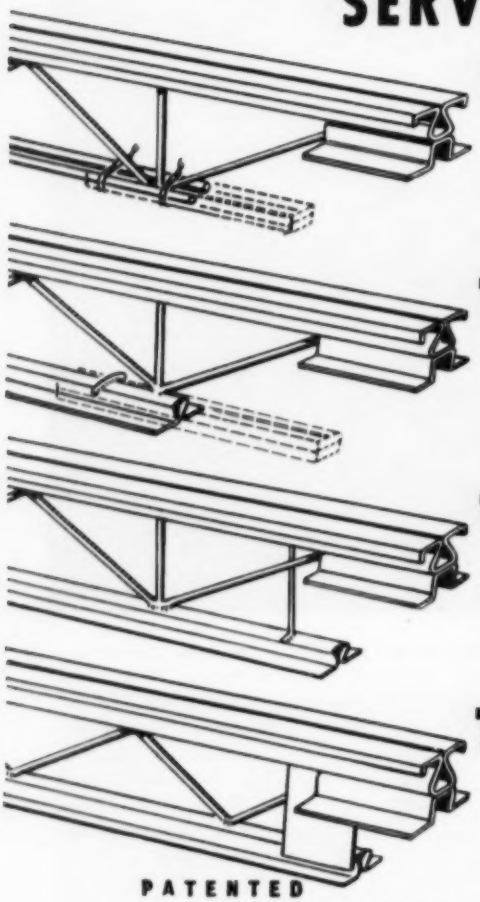
Your Sweet's Catalog File contains detailed information on all Pittsburgh Plate Glass Company products . . .Sections 7a, 13e, 15b, 16b, 21.

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS · FIBER GLASS

PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED

HOW MACOMBER *Nailable* STEEL JOISTS SERVE architects, engineers, contractors



THE MACOMBER V JOIST

Specify this standard V Bar Joist to support any flooring or roofing material. The faster labor saving convenience of nailing reduces man hours per floor area. The wide flat surface is also an ideal surface for welding or anchoring decking.

THE MACOMBER VS JOIST

Specify this type with Nailable Top and Bottom chords where a ceiling is to be attached. No. 7 Screw Gage drive nails are used for attaching any ceiling material to the bottom chord. Note welded lock bar securing ceiling extension.

THE MACOMBER VV JOIST

The VV Joist with Nailable Top and Bottom chords fits right up to wall, requiring no ceiling extensions. This joist has been in universal use for many years in school and commercial work, requiring fireproofed, acoustical ceilings.

THE MACOMBER STOCK JOIST

The Stock Joist is processed to length on short notice from warehouse stocks, coast to coast. A sturdy unit with nailable top and bottom chords, requiring no ceiling extensions, available either for standard construction or emergency conditions.

PATENTED

NOT JUST ONE JOIST — BUT THE TYPE ESPECIALLY DESIGNED TO MEET YOUR NEEDS MORE ECONOMICALLY

These Exclusive Structural Advantages are available ONLY in Macomber Steel Joists and Protected by U. S. Patents

ORIGINATORS OF THE OPEN WEB STEEL JOIST

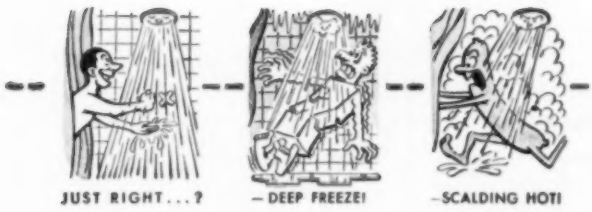
STANDARDIZED STEEL BUILDING PRODUCTS

V BAR JOISTS • LONGSPANS STEEL TRUSSES • STEEL DECK

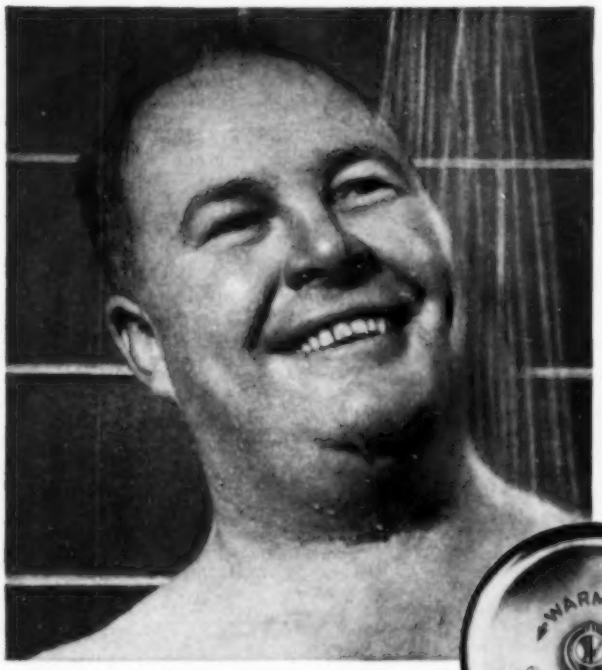
MACOMBER INCORPORATED

CANTON 1, OHIO

• ENGINEERING • FABRICATING AND ERECTING •



Public Liabilty Insurance Will Not Protect Shower Users from personal injuries, nor does it, in case of accidents, protect property owners from damaging publicity or time consuming lawsuits.



End Shower Complaints

with

Double-Safety

of

POWERS

Thermostatic WATER MIXERS

They protect bathers from scalding and "shots" of hot or cold water, caused by—

1 PRESSURE or

2 TEMPERATURE

fluctuations in water supply lines

Only a **thermostatic** water mixer gives this **double-safety**

Refreshing, Relaxing Safe Showers
and water economy too, are assured by Powers Thermostatic Water Mixers

One moving part easily accessible from the front. Easy removal of thermostatic motor and valve assembly with only a screwdriver makes it possible to inspect, clean or flush out mixer. Powerful thermostatic motor gives quick, positive shut off if cold water supply should fail.

No Shower Is MODERN Without This Protection
Powers thermostatic water mixers *always* hold shower temperature constant wherever the bather wants it. They are completely automatic. Failure of cold water supply instantly shuts off the shower. Delivery is *thermostatically* limited to 115° F.

POWERS Mixers Save Water. No time or water is wasted by bather having to get out from under shower because of fluctuating shower temperature. Water conservation feature alone makes Powers mixers a profitable investment.

"Minimum of Maintenance" . . . report many users of Powers Type H Thermostatic Water Mixers. Their simple, durable construction insures years of dependable service. (b63r)

For Utmost Comfort, Safety and Economy Specify Powers Mixers • See SWEET'S Catalog

Established in 1891 • **THE POWERS REGULATOR COMPANY** • SKOKIE, ILL. • Offices in Over 50 Cities

JOBS AND MEN

SITUATIONS OPEN

ARCHITECTURAL DRAFTSMAN—a central Michigan architectural office can offer a permanent position to a competent architectural draftsman with sufficient experience to develop working drawings from sketches. Good working conditions and salary. Applicants state experience, marital status and salary expected. Write Box 129, PROGRESSIVE ARCHITECTURE.

WANTED—ARCHITECTURAL DRAFTSMEN—able to develop working drawings. Excellent opportunity with young progressive firm doing educational, industrial and institutional building. Permanent position. Reply stating age, education, experience, starting salary and availability. Bouchart Engineering Corp., 611 West Market St., York, Pa.

TWO EXPERIENCED ARCHITECTURAL DRAFTSMEN—for office doing contemporary work in schools, public buildings, and shopping centers. Write giving complete information—820 Commercial Bank Bldg., Shreveport, La.

LICENSED ARCHITECT—age 30-40, as associate in well established progressive architect-engineer firm, employing 6 to 12, located in Northern part of country. Must be capable of producing preliminary sketches, developing working drawings, writing specifications and supervising work of others for all type and size projects. Box 130, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DRAFTSMAN-DESIGNER—must have unusual talent in design, rendering, interest in client contact, executive ability; fifty years or younger. Possibility of serving as understudy to senior member of long-established Southeastern architectural firm. Box 134, PROGRESSIVE ARCHITECTURE.

SITUATIONS WANTED

ARCHITECT/OWNER REPRESENTATIVE—or comparable executive position where 25 years of diversified construction experience will be utilized. Age 46. Eighteen years' as contractors' superintendent and engineer. Past seven years' as architects' representative on multi-million dollar projects. Now completing supervision of largest general office Building built in suburban New York area. Raymond V. Hand, Baldwin Road, Yorktown Heights, N. Y.

ARCHITECTURAL DRAFTSMAN—17 years' experience in architecture, expert scale models and air brush renderings. Wishes position in Western or Southwestern State. Salary $7,000. Box 131, PROGRESSIVE ARCHITECTURE.

ARCHITECT—30, married, architectural degree, Illinois registration, desires to locate in Rocky Mountain area. Experienced in complete handling of jobs, client contact through supervision. Have worked on varied building types; schools, industrial, institutional, and residential. Desires permanent position with progressive firm. Box 132, PROGRESSIVE ARCHITECTURE.

ARCHITECT—N. Y. Registration, age 32, seven years' experience, designer, draftsman. All phases of commercial, industrial and residential work. Client contact, field and office supervision. Manage project from sketch to finished structure in all respects. Highest references and record. Desires responsible position with future. Box 133, PROGRESSIVE ARCHITECTURE.

ARCHITECTURAL DESIGNER-DRAFTSMAN-DELINEATOR—first class, available. Broad interstate experience, all classes of buildings. Residential, commercial, industrial, educational, hospitals, churches. Frst sketches, development, working drawings, details, renderings. Highest references and record. Salary open. Hourly or weekly basis. Unusually fine education. Three years instructor, New York. Delores, Capital Hotel, Richmond, Va.

Advertising Rates

Standard charge for each unit is Five Dollars, with a maximum of 50 words. In counting words, your complete address (any address) counts as five words, a box number as three words. Two units may be purchased for ten dollars, with a maximum of 100 words. Check or money order should accompany advertisement and be mailed to Jobs and Men, c/o Progressive Architecture, 330 W. 42nd St., New York 36, N. Y. Insertions will be accepted not later than the 1st of the month preceding publication. Box number replies should be addressed as noted above with the box number placed in lower left hand corner of envelope.

MISCELLANEOUS

MURIEL FEDER-ARCHITECTURAL & DESIGN PERSONNEL AGENCY—a personalized placement service for top-level architects, designers, engineers, draftsmen, estimators, and interior designers, selective contacts arranged in a confidential and professional manner. Interviews by appointment. 58 Park Avenue, New York, Muray Hill 3-2523.

CAREER BUILDERS PLACEMENT SERVICE—for Architects, Architectural Designers, Interior Designers, Industrial Designers, Draftsmen and Office Personnel. Interviews by appointment. PLaza 7-6385, 35 West 53rd Street, New York 19, N. Y.

BUDGET ESTIMATES—specializing in the preparation of budget estimates, quantity surveys and material purchase lists for federal, municipal and private projects. Builders Estimating Service, 140 Nassau Street, N. Y. 38, CO 7- 0322.

SCALE MODELS—under your supervision, area New York to Washington. Since 1945 have built models of Philadelphia schools, Lankenau Hospital, Drevel Institute, Youth Study Center, Wilmington Trust and Christ Church, Del., among others. Formerly in Philadelphia, now between Philadelphia and Wilmington. Call Valley Brook 2873. Musselman-Casey Studio, 801 Birney Highway, Aston Mills, Delaware Co., Pa.

STRUCTURAL ENGINEERING SERVICE FOR ARCHITECTS—we offer solutions for your involved or conventional structural design problems together with preparation of structural working drawings for steel, reinforced concrete or timber construction of architectural or engineering works. E. A. Picardi & Associates, Registered Engineers, 3143 Goddard Road, Toledo 6, Ohio.

ARCHITECTURAL ENGINEERING

A Practical Course (HOME STUDY) by Mail Only

Prepares Architects and Draftsmen
for structural portion of

STATE BOARD EXAMINATIONS

For many this is the most difficult section of the examinations. Qualifies for designing structures in wood, concrete or steel. Successfully conducted for the past twenty years. Our complete Structural Engineering course well known for forty-four years.

Literature without obligation—write TODAY

WILSON ENGINEERING CORPORATION

College House Offices Harvard Square
CAMBRIDGE, MASSACHUSETTS, U. S. A.

Architectural Practice—Revised Edition

by Clinton H. Cowgill and Ben John Small

This comprehensive book covers the professional, business, and legal aspects of architectural practice. Commissions for professional services are traced in minutest detail from the day the client arrives to the last payment for work performed. The social and economic implications of contemporary practice are translated in terms of ready-to-use forms, guides, advice, graphic illustrations, and the like. Accounting procedures, bookkeeping systems, almost every procedural form an architect requires for his practice, agreements of every nature, specifications, insurance and bond requirements are all presented in orderly sequence.

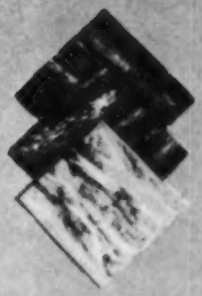
430 pages, 9 x 12, illustrated, $12.00

Send for a copy on approval
REINHOLD PUBLISHING CORPORATION
Dept. X-54, 330 West 42nd St. New York 18, N. Y.

FOR BUSY INDOOR HIGHWAYS .... AND DURABLE, YET BEAUTIFUL WALLS

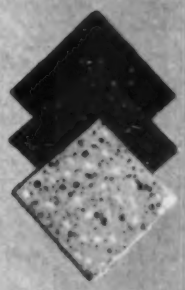
Specify

Vinylflex
PLASTIC FLOOR TILE



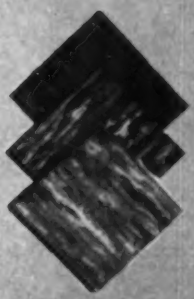
Where greater grease-proof properties the every day resistance to alkalis, mild acids, fats, oils, naphtha and even gasoline is specified . . . VINYLFLEX, the all purpose vinyl plastic floor tile, is the answer. VINYLFLEX is exceptionally resilient, yet tough, assuring longer wear with minimum care. VINYLFLEX can be applied on or below grade.

Poly-krome
RESILIENT TERRAZZO TYPE TILE



HAKO POLY-KROME, a brilliant resilient type tile with brand new beauty that sparkles on floors. The vari-colored chips in each POLY-KROME tile lend themselves perfectly to practically any commercial and residential room decorative scheme. POLY-KROME is inexpensive and easy to install on or below grade.

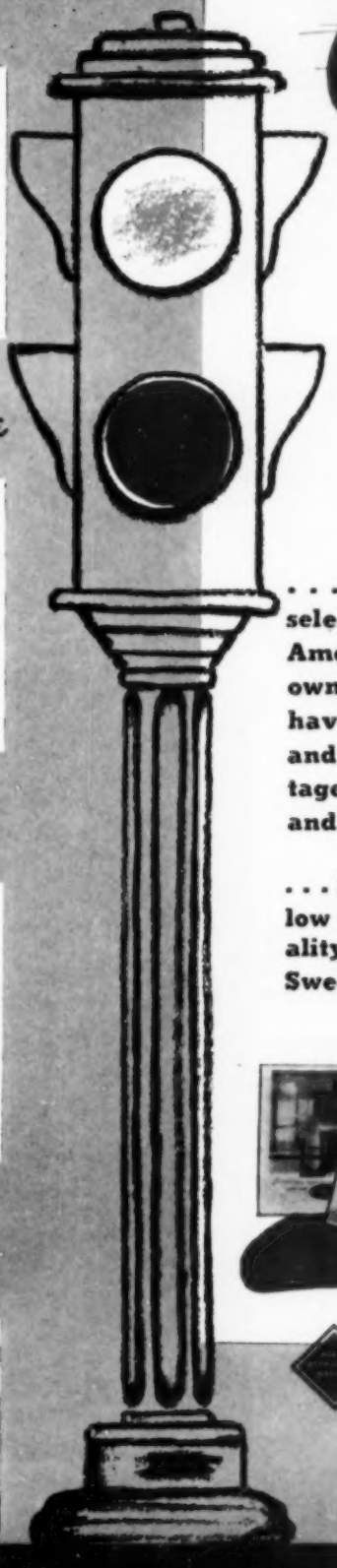
Asphalt Tile FLOORING



HAKO ASPHALT TILE features modern new pastel and standard marbleized colors in limitless patterns and combinations. For permanent protection, lasting utility, inexpensive luxury and durability, HAKO ASPHALT TILE is the choice of architects and builders all over America. Glamorous colors . . . lasting durability . . . ease of installation . . . effortless to clean.

Coronet PLASTIC WALL TILE
and **HAKO THRIFT LINE TILE**

Glamorous colors . . . lasting durability . . . ease of installation . . . effortless to clean.



GO! WITH PROVED HAKO FLOOR AND WALL TILES

. . . and specify with confidence that you have selected the greatest floor and wall tiles in America. Each of these HAKO tiles have their own individual design application .. and all have thoroughly proved themselves both in test and actual service. All have these plus advantages .. exceptional lifetime beauty, easy, fast and inexpensive installation.

. . . for downright durability, specify HAKO for low cost floor and wall coverings and individuality for every room or application. See them in Sweets File No. 12i-Ha or PA-4-54

d for these
or CATALOGS

Guaranteed by Good Housekeeping

SINCE 1903
HACHMEISTER-INC.
PITTSBURGH 30, PA.

Women appreciate this service

The ready availability of Kotex* in your washrooms is every bit as important as soap and towels. And from the standpoint of preference—more women choose Kotex than *all* other sanitary napkins combined.

The convenient rest room vendor holds 15 individually wrapped Kotex napkins, packaged under the highest degree of sanitation. Each package contains two pins. Refills supplied in cartons of 200.

The Kotex vendor is a highly appreciated service in schools, colleges, theaters, hotels, restaurants, office buildings, factories—for women everywhere.

- **Sturdy**
- **Handsome, White Enamel**
- **Tamperproof**
- **Inexpensive**
- **Occupies Minimum Wall Space**
- **Fully Coin-Operated**
  (rejects slugs, washers without injuring mechanism)

Only West Disinfecting Company is licensed to sell the Kotex vending machine service. Write for complete details.

ORDER FROM

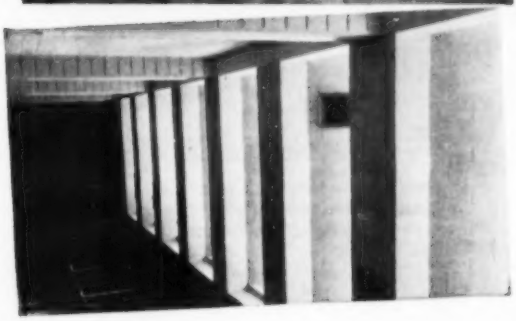
WEST DISINFECTING Company

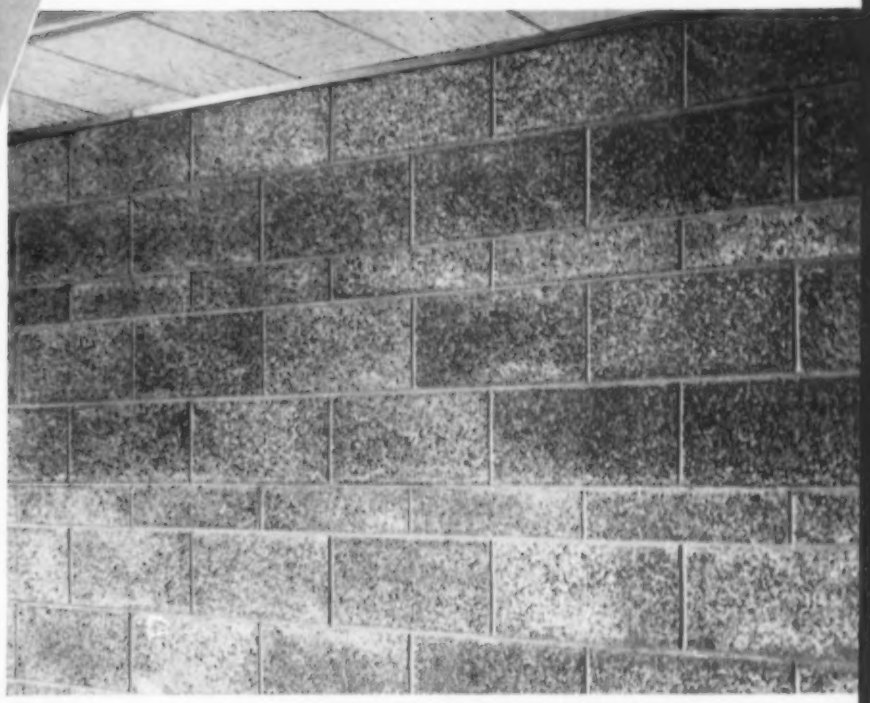
42-16 West Street, Long Island City 1, N. Y.

*T. M. Reg. U. S. Pat. Off.

Build Better with VIBRAPAC Block

Detail in the office of a well-known manufacturing plant — Vibrapac Block — 2 course 8" high and 1 course 4" high. (Unretouched photo)





Make Your Block Masonry Dreams Come True!

NOW you can create distinctive exteriors and interiors *at low cost* . . . because VIBRAPAC Better Block combines beauty, utility and permanence that compares favorably with any other masonry material. You build a reputation with every structure you erect using this highly regarded, economical block masonry.

Consistent Exterior-Interior Masonry Harmony

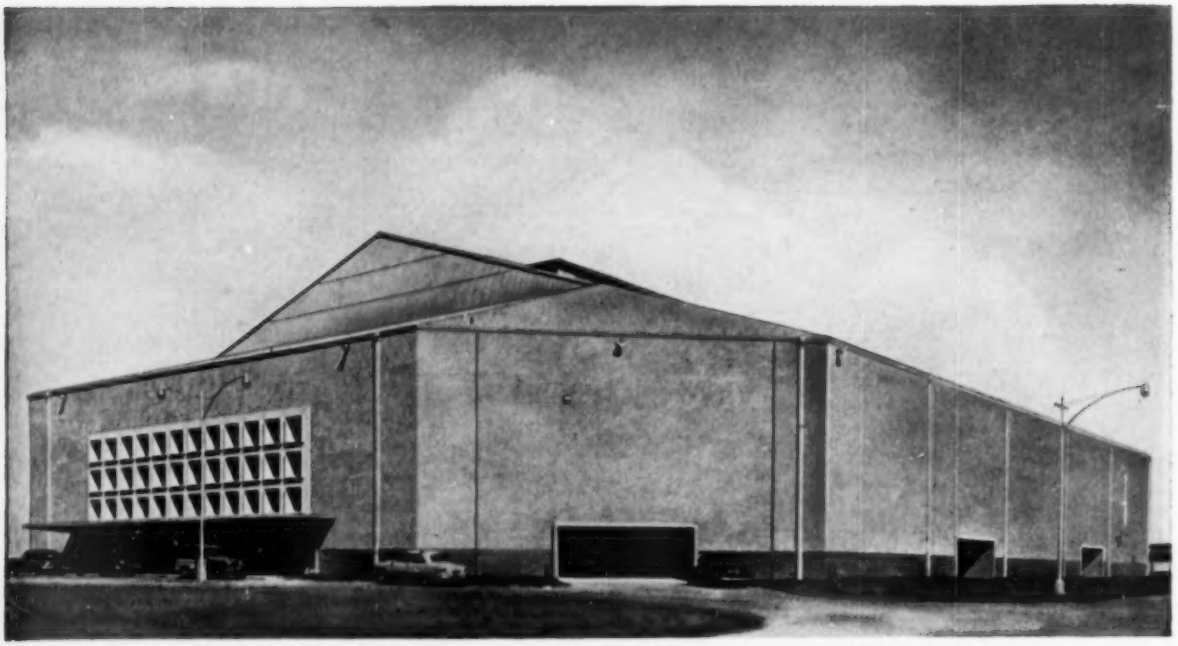
Coordination of exterior and interior design are assured with VIBRAPAC Block . . . plus light structural load advantages, ruggedness, firesafety, superior insulation values and minimum maintenance cost. See your nearest VIBRAPAC Block Producer . . . or write to

BESSER MANUFACTURING CO.
Box 177, Alpena, Michigan, U. S. A.

BESSER VIBRAPAC . . . The fully automatic concrete block machine . . . produces high quality modern masonry units of any desired texture or density . . . AT LOW COST!

BESSER
50th Anniversary
1904-1954

..a Half Century of Concrete Masonry Progress!



Heart O' Texas Coliseum, Waco; Owner, McLennan County; Contractor, Farnsworth and Chambers Co., Inc., Houston; Architect, Harris H. Roberts, Waco.

Built High, Wide and Handsome with concrete block made with Duraplastic*

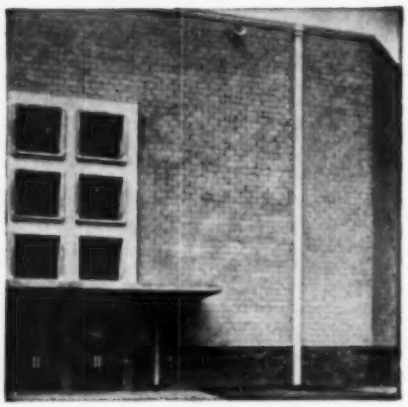
Built high and wide enough to seat 11,500, Waco's Heart O'Texas Coliseum matches size with good looks. To achieve good looks on such a large scale, the builders specified concrete block—98,000 of them—all made with Duraplastic air-entraining portland cement.

More and more builders, with an eye to appearance and durability, are choosing concrete block made with Duraplastic cement. They like the clean, true edges . . . the richer face texture. Another desirable feature of such block is their high resistance to the passage of water.

Many contractors specify Duraplastic cement for their regular concrete work because it provides greater plasticity and workability, aids proper placement and increases durability.

YET DURAPLASTIC COSTS NO MORE

It sells at the same price as regular cement and requires no unusual changes in procedure. Complies with ASTM and Federal Specifications. For descriptive booklet, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N.Y.



42'-HIGH wall shows fine masonry wall of Duraplastic-made block. True edges, pleasing color and texture of Duraplastic block help assure better-looking block jobs.

OFFICES: Albany • Birmingham • Boston • Chicago • Dayton • Kansas City • Minneapolis • New York • Philadelphia • Pittsburgh • St. Louis • Waco

*"Duraplastic" is the registered trade-mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.

ATLAS® **DURAPLASTIC**

AIR-ENTRAINING PORTLAND CEMENT

A UNIVERSAL ATLAS PRODUCT

PA-D-157

Makes Superior Concrete Products at No Extra Cost

UNITED STATES STEEL HOUR—Televised alternate weeks—See your newspaper for time and station.

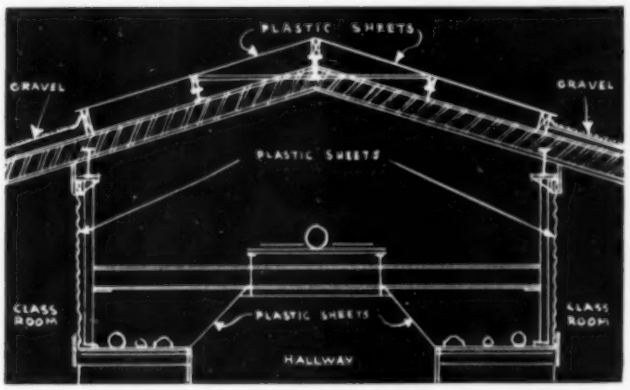
Materials
Methods

MONSANTO
CHEMICALS - PLASTICS

In the corridor, polyester-fibrous glass panels allow bilateral light from skylight to flood over entire length of hallway, giving a full, even illumination.

ILLINOIS SCHOOL GETS LOW-COST LIGHTING WITH POLYESTER-FIBROUS GLASS PANELS

Skylight forms basic part of central plenum. It is constructed of translucent polyester-fibrous glass panels and allows transmission of light into every part of hallways and classrooms.



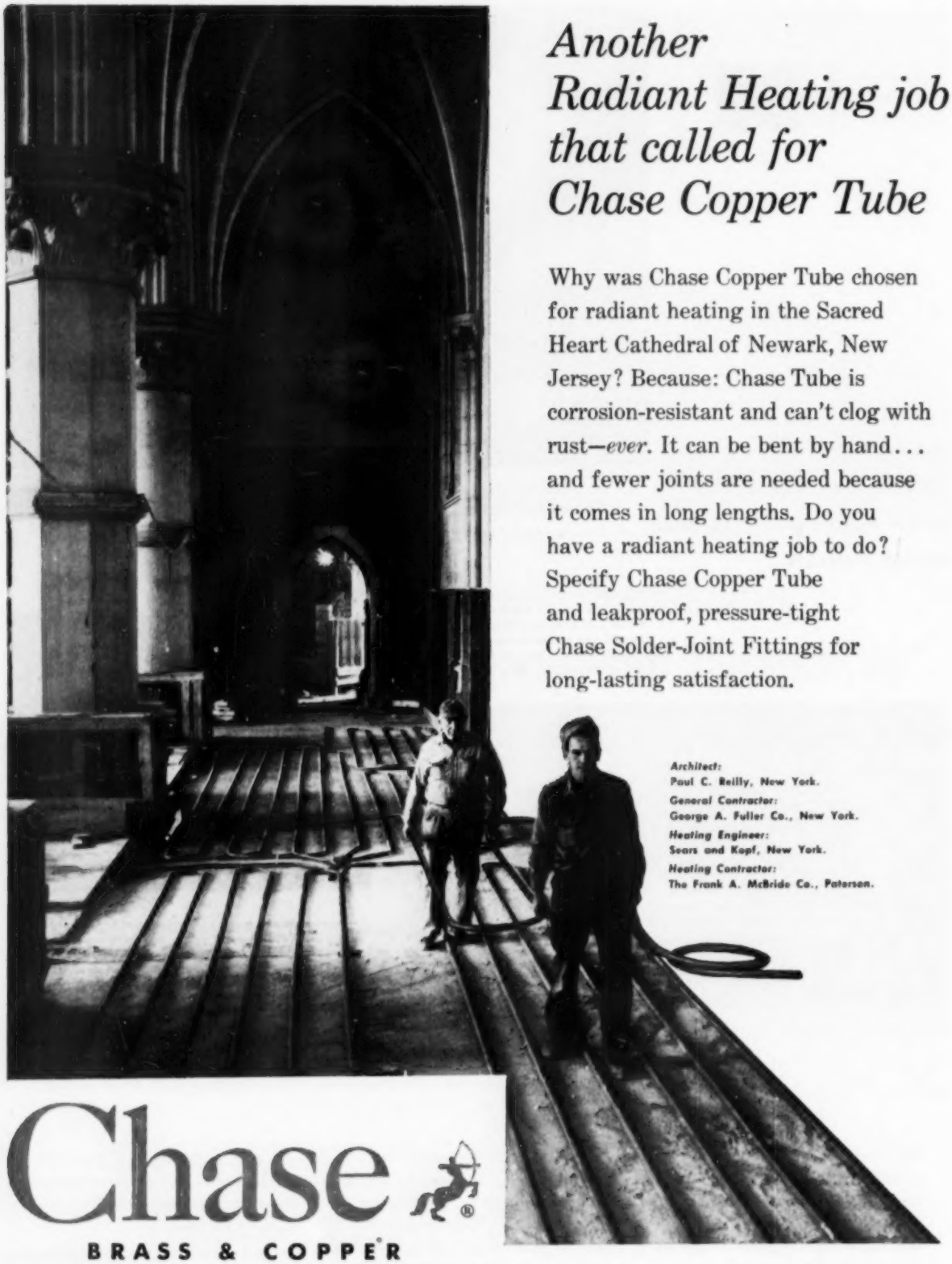
In the classroom, translucent polyester-fibrous glass panels set in the top part of the wall give excellent transmission of bilateral light. The light has a high level of intensity and is evenly distributed over an entire area. This system has already substantially reduced lighting costs for the school.

The use of polyester-fibrous glass panels in Rockford School lowered initial costs below that of glass. Maintenance costs were also reduced and reglazing was eliminated, since material is shatterproof.

These panels come in a variety of colors. They are rust-proof, rot-proof, weather-resistant. They have a high strength-to-weight ratio and good dimensional stability although they should *not* be used under sustained heavy loading because of fatigue. Other advantages include light weight, handsome appearance, easy handling and fabrication.

Monsanto contributes to the quality of panels by supplying basic chemical raw materials to the reinforced plastic industry—styrene monomer, fumaric acid and phthalic and maleic anhydrides.

For more information on polyester-fibrous glass materials write Organic Chemicals Division, MONSANTO CHEMICAL COMPANY, Box 478, St. Louis 1, Missouri.



Another Radiant Heating job that called for Chase Copper Tube

Why was Chase Copper Tube chosen for radiant heating in the Sacred Heart Cathedral of Newark, New Jersey? Because: Chase Tube is corrosion-resistant and can't clog with rust—*ever*. It can be bent by hand... and fewer joints are needed because it comes in long lengths. Do you have a radiant heating job to do? Specify Chase Copper Tube and leakproof, pressure-tight Chase Solder-Joint Fittings for long-lasting satisfaction.

Architect:
Paul C. Reilly, New York.
General Contractor:
George A. Fuller Co., New York.
Heating Engineer:
Sears and Kopf, New York.
Heating Contractor:
The Frank A. McBride Co., Paterson.

Chase

BRASS & COPPER

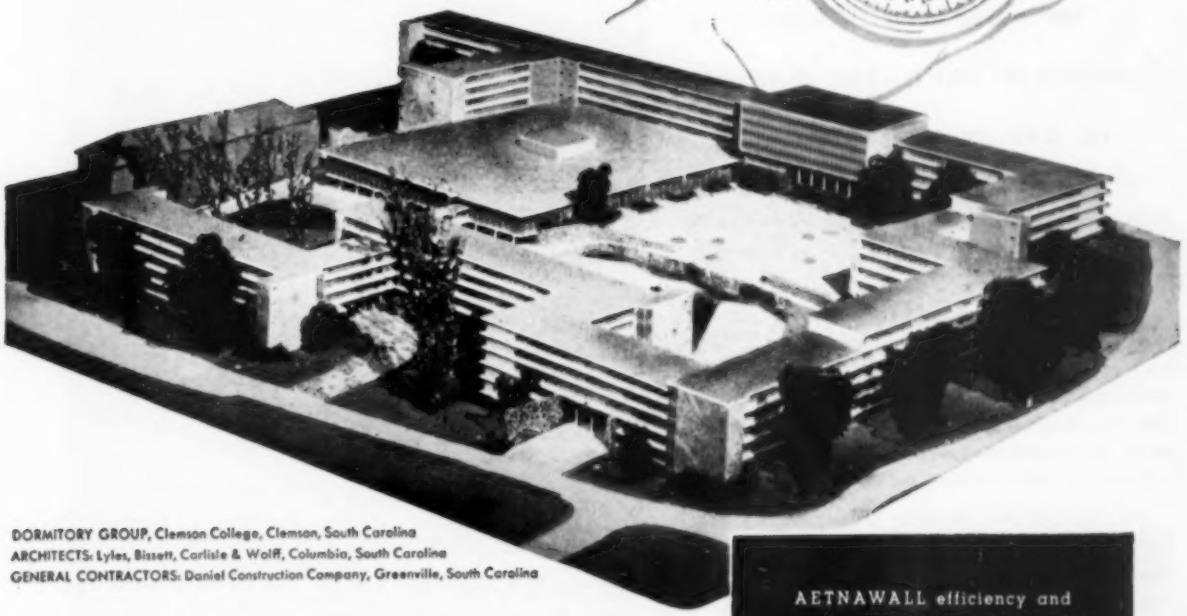
WATERBURY 20, CONNECTICUT • SUBSIDIARY OF KENNECOTT COPPER CORPORATION

The Nation's Headquarters for Brass & Copper

Albany†	Chicago	Denver†	Kansas City, Mo.	Newark	Pittsburgh	San Francisco
Atlanta	Cincinnati	Detroit	Los Angeles	New Orleans	Providence	Seattle
Baltimore	Cleveland	Houston	Milwaukee	New York	Rochester†	Waterbury
Boston	Dallas	Indianapolis	Minneapolis	Philadelphia	St. Louis	(†sales office only)

SPEED of CONSTRUCTION
the question...

AETNAWALL
the answer!



DORMITORY GROUP, Clemson College, Clemson, South Carolina
ARCHITECTS: Lyles, Bissett, Carlisle & Wolff, Columbia, South Carolina
GENERAL CONTRACTORS: Daniel Construction Company, Greenville, South Carolina

Everything about the Dormitory Group project at Clemson College was co-ordinated to the purpose of speedy construction. For this reason, 3" thick AETNAWALL of furniture steel, insulated with Fiberglas, practically wrote itself into the specifications for this job—a perfect solution where speed is essential.

Over 1,000 rooms in this entirely prefabricated project are enclosed by prefabricated AETNAWALL, equipped with built-in, concealed electrical and plumbing services. AETNAWALL's comparative light weight was appropriate to the building's over-all speedy mode of construction and AETNAWALL, itself, was erected in a fraction of the time required by masonry or other methods.

Add to this AETNAWALL's characteristic advantage of *re-usability*.

AETNAWALL efficiency and know-how stem from a background of over 26 years in the manufacture and installation of movable steel walls. AETNAWALL users include the top names of every phase of American business and industry. You can be sure of quality production, experienced and faithful engineering follow-through and prompt delivery when you specify . . . AETNAWALL.

The best in pre-fabricated movable walls for all uses . . . Product of

E.J.BOYLE

E. J. BOYLE DIVISION
AETNA STEEL PRODUCTS CORPORATION
14 Charlton Street, New York 14, New York

STEEL PRODUCTS MANUFACTURERS

PRODUCERS OF: The new Arnot Partition-ettes; Arnot Functional Office Furniture; Hospital and Laboratory Equipment; Under-Counter Bank Equipment; Aetna Steel Doors and Frames; Kahr Bearings; Boyle Metal Office Partitions (Aetnawall).

MILE HIGH CENTER—

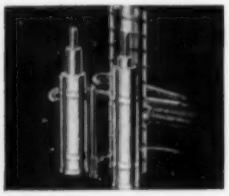
Another of America's newest buildings chooses a Yorkaire System of air conditioning!

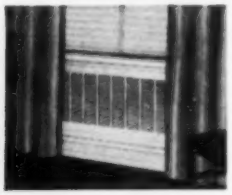
Building after building, old and new, across the country is installing the Yorkaire System of Air Conditioning!

One of the more recent is the Mile High Center, being built in Denver. This magnificent 23-story structure will have walls made mostly of glass and it posed a "heat-load" problem of sizable proportions. York engineers—who have a great variety of systems from which to choose, who even design special systems to bring the *right kind* of air conditioning to unusual buildings—are furnishing a Yorkaire System as the perfect answer.

You can apply this knowledge and experience to your building. Call your York District Office (located in principal cities). Or write to York Corporation, York, Pa.

Webb & Knapp, Inc.—I. M. Pei, designer
Kerby Saunders, Inc.—mechanical contractors
Jaros, Baum & Bolles—consulting engineers
George A. Fuller Company—general contractor





Source of comfort cooling in this case will be two rugged 800-ton York Turbo Water Cooling Systems. "Raw" air, brought into the building is filtered, washed, cooled or heated, and moisture conditioned. When it's "just right," it begins its swift, silent journey • Through small, tightly sealed tubes, the "comfort" air is sent under mild pressure. Small pipes carry hot or cold water to help you obtain the temperature you want • In room units (1848 in the Mile High Center) air tube and water pipes converge. The conditioned air is released in a gentle, quiet stream. A simple control lets you refine temperatures to the conditions you desire.

IF YOU ARE ABOUT TO AIR CONDITION . . .

. . . consult with experienced York engineers. York brought the right kind of comfort cooling to the Empire State Building and the S. S. United States, *for example. Recent contracts include such buildings as the Esso Standard Oil Company in Philadelphia and Atlanta's Fulton National Bank.*

air conditioning by york

In homes and offices, ships and stores, skyscrapers, factories, hospitals, theaters . . . almost everywhere you go, when the air conditioning is just right, chances are it's York Air Conditioning.

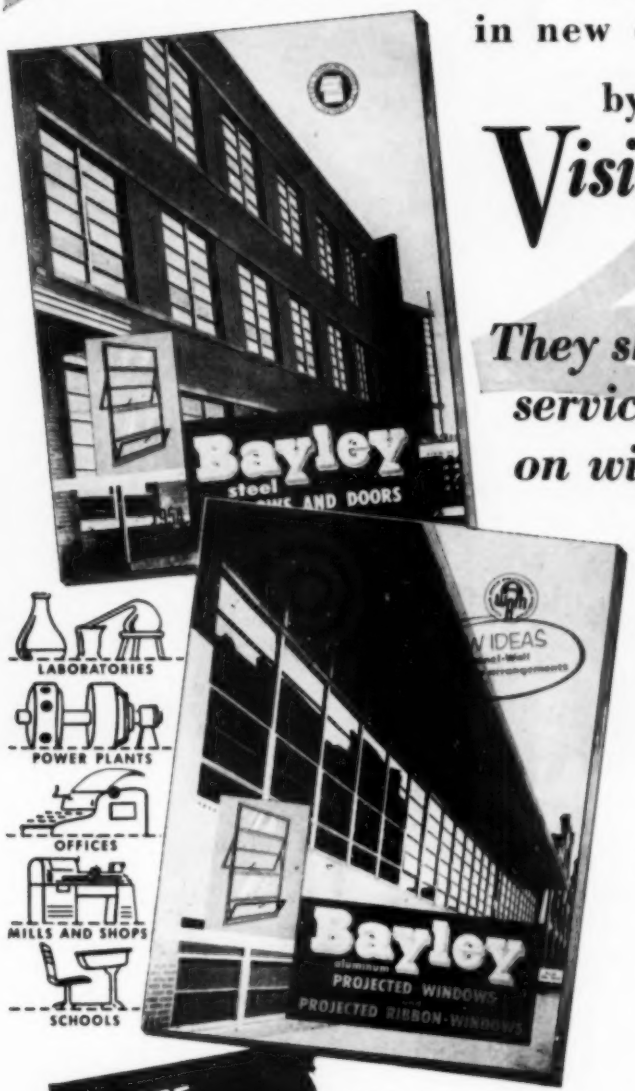
YORK CORPORATION York YORK, PA.

HEADQUARTERS FOR MECHANICAL COOLING SINCE 1885

Announcing

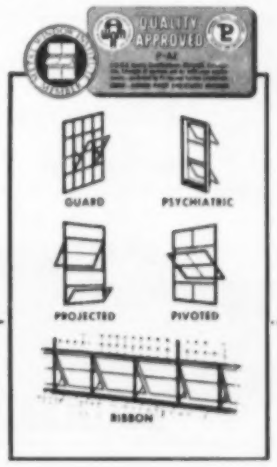
two new window catalogs you'll find helpful in new or modernizing work by specialists in

Visioneering*



They show you the time-tested, service-proved way to save on window maintenance

Windows can make a big difference in your building maintenance budget—they account for such a large percentage of the building's wall area. So the best window is your cheapest buy in the long run. That's why Bayley metal windows—steel or aluminum—have enjoyed such regular specification preference from cost-minded buyers. By exceeding usual standards in depth, weight, design, workmanship, appearance and performance, Bayley Windows effect maximum ultimate economy. In these catalogs, that will be gladly sent upon request, you'll find complete details on Bayley Windows to best meet every condition. Bayley is always glad to also consult with you on your specific window needs. No obligation.



WRITE TODAY for Your Copies

*Visioneering—*The science of coordinating vision, air and light in modern building walls with windows of advanced design.*

Bayley Visioneering Reflects 75 Years of Reliability

Copyright 1953 The William Bayley Company

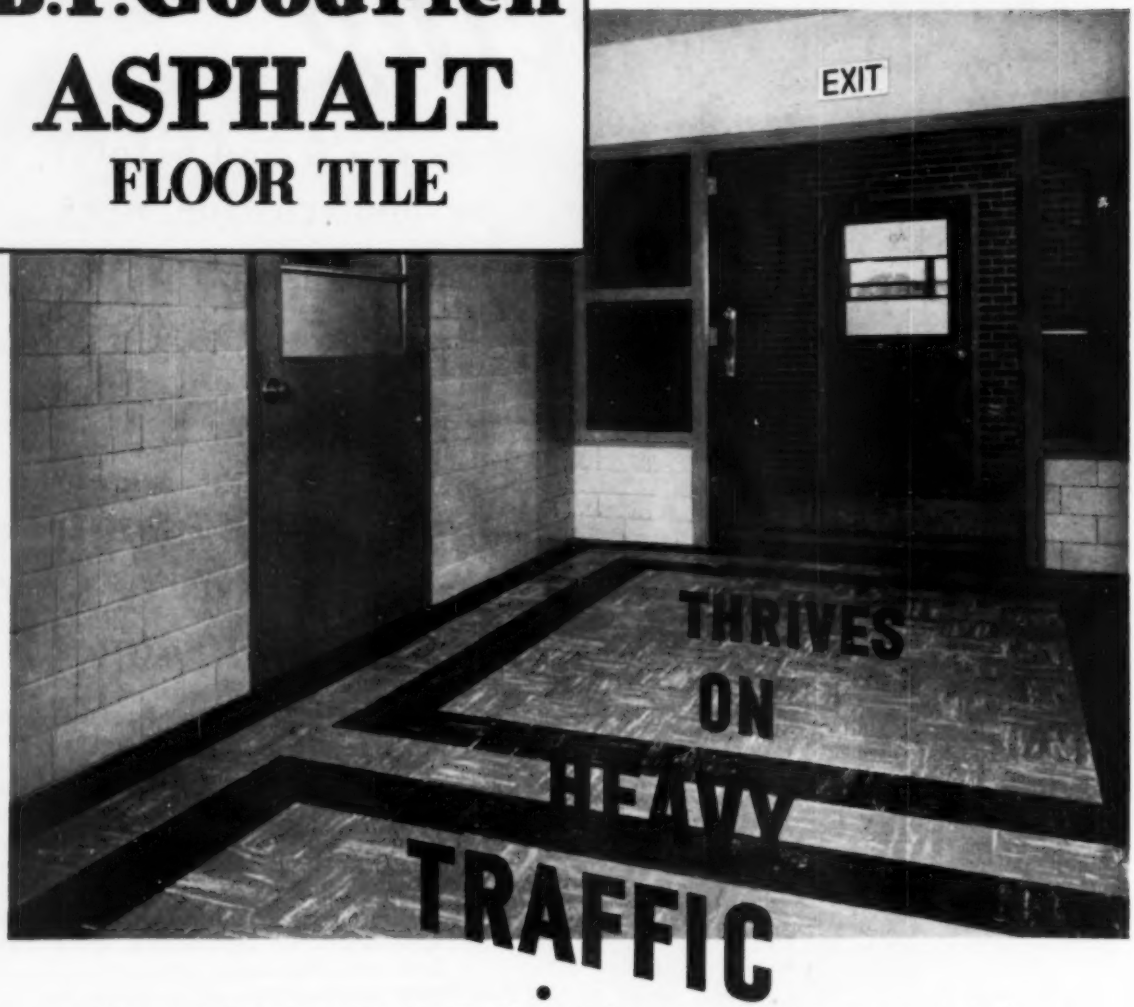
THE WILLIAM BAYLEY COMPANY

Springfield, Ohio

District Offices:

Springfield · Chicago 2 · New York 17 · Washington 16

B.F.Goodrich
ASPHALT
FLOOR TILE



Architects and clients agree that B. F. Goodrich Asphalt Floor Tile is excellent for schools, office buildings and stores . . . wherever traffic is heavy.

B. F. Goodrich Asphalt Floor Tile is extremely durable . . . resists scuffs and stains . . . stands up well under abusive treatment. And maintenance costs are amazingly *low*.

B. F. Goodrich Asphalt Floor Tile is factory-waxed . . . precision-cut . . . moderately-priced. You can confidently specify this top-quality asphalt floor tile for any installation, whether on, above or below ground.

Available in 24 beautiful colors.

B.F.Goodrich
FLOORING PRODUCTS

For B. F. Goodrich aids for architects, write:
Dept. P7, B. F. Goodrich Co., Flooring Division, Watertown 72, Mass.

RUBBER TILE • ASPHALT TILE • KOROSEAL TILE • RUBBER COVE BASE • ACCESSORIES

Clyde A. Erwin School,
Jacksonville, N. C.

WASCOLITE SKYDOMES
Balanced Daylighting

. . . with low initial cost, savings in construction, no maintenance . . . these are the reasons why Architect Leslie N. Boney, Wilmington, N. C., has specified Skydomes for 42 schools during the past four years.

Mr. Boney says: "We specify Skydome toplighting because this method achieves balanced daylighting with lower ceiling heights, reduced cubage costs and simple roof construction . . . at substantial savings. School administrators and teachers are very satisfied with the quality of toplighting achieved.

"In designing these schools, we call on Wasco's engineering staff to make complete daylight analyses. This service is extremely helpful.

"We are proud of these schools. They are among the state's most advanced in design."

Wascolite Skydomes are available in White Translucent or Clear Colorless acrylic plastic. They come in 3 basic shapes — square, rectangular, circular — and in a wide range of stock sizes.

CREDITS: Leslie N. Boney, Architect; M. L. Skinner, General Contractor; Isham B. Hudson, Superintendent of Schools.

wascolite skydomes®

See Sweet's Catalog or write ... **WASCO FLASHING COMPANY,** 90 Fawcett Street, Cambridge 38, Mass.

Tracing design on glass cloth from metal loft at A. O. Smith Corp., Rochester Works.

Valuable originals protected against wear and tear

At the A. O. Smith Corp.'s Rochester (N.Y.) Works, large drawings are made exactly to scale on glass cloth. Since these drawings often cost several hundred dollars each, A. O. Smith naturally does not wish to expose them to possible damage during print-making and to the wear and tear of excessive handling. Instead, they use intermediates made on Kodagraph Autopositive Paper.

Costing but a few cents a square foot, Autopositive produces positive photographic prints directly from the original drawings — without a negative step or darkroom handling. It can be exposed in standard print-making equipment and processed in standard photographic solutions. (A. O. Smith uses a vacuum-frame printer, which accommodates drawings up to 8 x 4 feet in size.)

No worries with Autopositive intermediates — they turn out sharp, legible shop prints time after time. Their dense photographic black lines do not smudge or smear. And they can be run at uniform, practical speeds in the company's direct-process machine.

In addition, A. O. Smith keeps an "Autopositive File" showing the history of changes in all their drawings. Before each revision, an Autopositive intermediate is made. Later on, direct-process prints showing the complete story of each design can be made from the intermediates as needed.

Kodagraph Autopositive Paper

"THE BIG NEW PLUS" in engineering drawing reproduction

Shows all the ways you can save with Kodagraph Autopositive Paper.

MAIL COUPON FOR FREE BOOKLET

94

EASTMAN KODAK COMPANY
Industrial Photographic Division, Rochester 4, N. Y.
Gentlemen: Please send me a copy of "Modern Drawing and Document Reproduction."

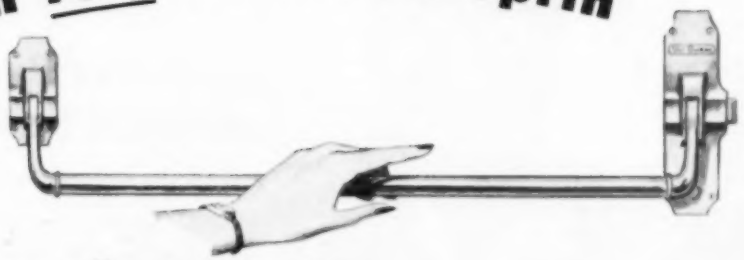
Name_____ Position_____

Company_____ Street_____

City_____ Zone____ State_____

Kodak

You can rely on Von Duprin



to unlock any door . . . every time!

● Unfailing exit devices are a *must* in hospitals . . . and that makes Von Duprin the first choice among leading hospital officials and architects.

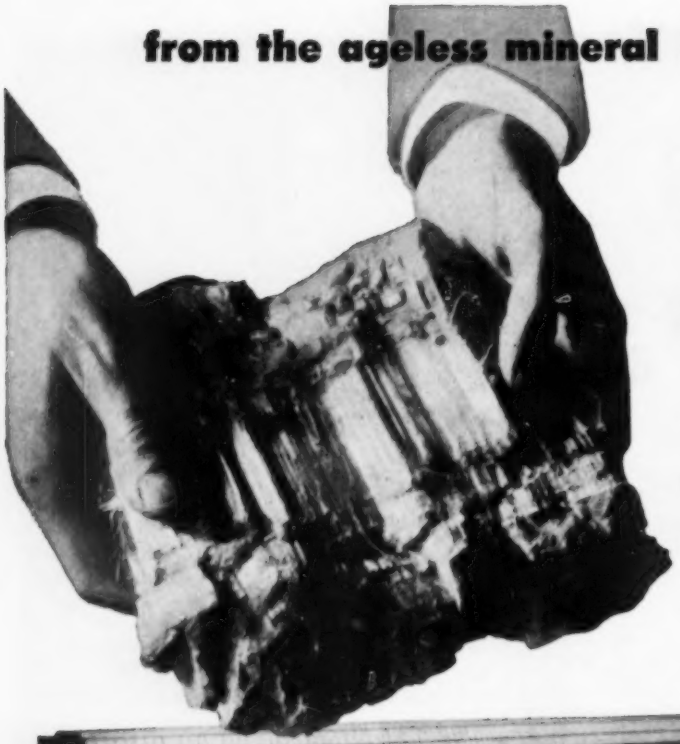
Precision-made Von Duprin devices respond instantly and positively—no matter how often or seldom they are used. They provide the operating ease so important to hospital routine . . . and the assurance of *performance* in case of an emergency.

Next time you design or remodel a hospital—or any other building, for that matter—be sure you provide "the safe way out," by specifying Von Duprin exit devices. If you'd like, a Von Duprin "Exit Specialist"—a factory representative or a selected builders' hardware distributor—will be happy to work with you in choosing the most practical installation. A post card or phone call will bring him your way!

VON DUPRIN DIVISION
VONNEGUT HARDWARE COMPANY
402 West Maryland Street
Indianapolis 9, Ind.

Von Duprin Fire and Panic Exit Devices

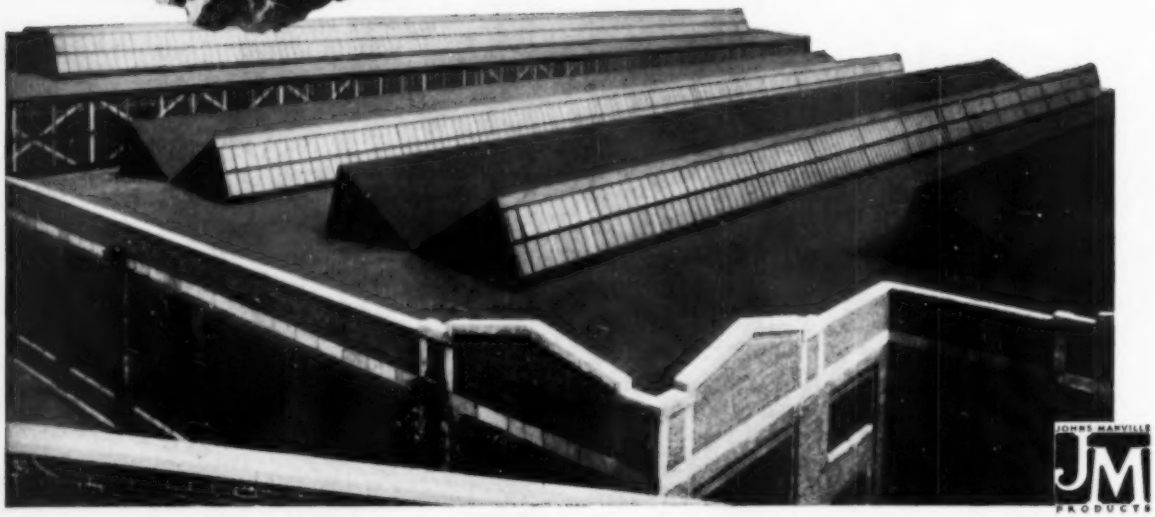
from the ageless mineral **ASBESTOS**



...comes the smooth-surfaced built-up roof

FLEXSTONE*

which provides a flexible covering of stone...



Because they are made of the mineral, asbestos, the felts of a Johns-Manville Flexstone Built-Up Roof assure lasting service and protection. They will not support combustion. They effectively resist the drying-out action of the sun . . . won't rot, are weatherproof and need no periodic coating.

Flexstone Built-Up Roofs are smooth-surfaced . . . permit thorough drainage . . . make damage easy to locate and repair. These superior advantages are also provided by the J-M Flexstone Special Built-Up Roof . . . developed especially for dead-level decks.

For complete information about Flexstone Roofs and J-M Asbestile* Flashing System that provides thorough water tightness and effective treatment for critical roof areas, see your Approved Johns-Manville Contractor. He's listed in the Classified Section of the telephone directory. Or send for folder BU-51A. Write Johns-Manville, Box 158, New York 16, N. Y. In Canada, write 199 Bay St., Toronto 1, Ont.

*Reg. U. S. Pat. Off.

Johns-Manville FLEXSTONE* Built-Up Roofs

ASBESTOS CORRUGATED TRANSITE* • ACOUSTICAL CEILINGS

DECORATIVE FLOORS • MOVABLE WALLS • ETC.

"Queen of High Schools"

at PARMA, OHIO

PICKS QUALITY HILLYARD PRODUCTS for All Floors!

• Architects—Fulton, Krinsky and Dela Motte, Cleveland, Ohio

• Hillyard Maintaineer assisted in finishing

• Floor Treatment by Hillyard

Every floor in this outstanding 20-acre school plant reflects the planned choice of specialized products and labor-saving techniques at blueprint stage. Hillyard floor treatments, as specified by the architect, were applied under the supervision of School Superintendent Carl C. Byers, working directly with the Hillyard Maintaineer (floor treatment specialist) in the Ohio territory. Hillyard offers school management this valuable floor planning assistance *without charge* and backs it with half a century of experience. Why not talk over your floor problems with the Hillyard Maintaineer near you. Like PARMA SENIOR HIGH, and thousands of the nation's finest schools, ASSURE floors of lasting beauty with great savings in maintenance. Write for Hillyard help today.

Hillyard Products Specified —

for resilient floors	• HIL-TEX SEAL • SUPER HIL-BRITE WAX • HIL-SWEEP MAINTAINER
for terrazzo and cement	• SUPER SHINE-ALL • TERRAZZINE • ONEX-SEAL
for wood gym	• TROPHY SEAL • TROPHY FINISH • SUPER HIL-TONE MAINTAINER

120 Hillyard Maintaineers on your staff, not your payroll

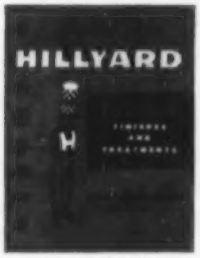
FLOOR HILLYARD TREATMENTS

ST. JOSEPH, MISSOURI

Passaic, N. J. San Jose, Calif.

Branches in Principal Cities

Send for



your copy of Hillyard's new AIA data file on the treatment for all floors. Detailed specifications, full product information.

FREE on Request.

ARCHITECT SPECIFIED • •

hydroment

GROUTED FLOORS . . . in the

Cuyahoga County T. B. Hospital

Cleveland, Ohio

Interior Marble & Tile Co., Cleveland, O., Tile Contractors
Sam W. Emerson, Cleveland, Ohio, Gen. Contractors
Geo. S. Rider Co., Cleveland, O., Engineers

HYDROMENT JOINT FILLER, installed at slight additional cost over conventional Portland cement grout, overcomes the prevalent problem of floor and wall joint corrosion.

Tried and proved for more than 15 years, it provides *tight, waterproof, corrosive resistant, non-shrinking joints* resulting in durable, attractive brick and tile floors and walls.

Write for the NEW HYDROMENT JOINT FILLER BROCHURE . . . JUST OFF THE PRESS!

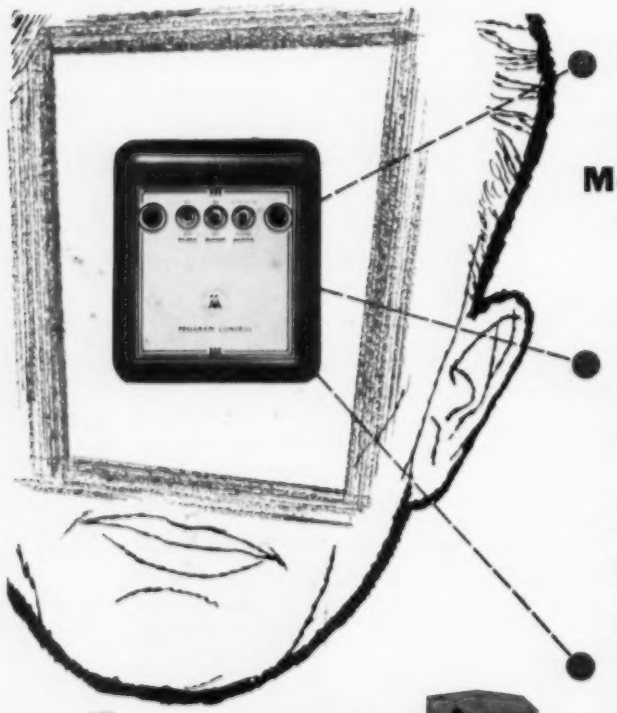
Some of the MANY HOSPITALS where HYDROMENT is prolonging the service life of Brick & Tile Walls & Floors.

Byeberry State Hospital, Byeberry, Pa. • Central State Hospital, Shawnee, Okla. • Charity Hospital, New Orleans, La. • Chicago State Hospital, Chicago, Ill. • Confederate Mem. Med. Center, Shreveport, La. • Fitzsimmons Army Gen. Hosp., Denver, Colo. • Johns Hopkins Hospital, Baltimore, Md. • Kankakee State Hospital, Kankakee, Ill. • Kennedy Veterans Hospital, Memphis, Tenn. • U. S. Naval Hospital, Philadelphia, Pa. • U. S. Naval Hospital, Bainbridge, Md.

4805 LEXINGTON AVE. CLEVELAND 3, OHIO

THE UPCO COMPANY

PIONEERS IN INDUSTRIAL RESEARCH SINCE 1881



Like a "magic brain" . . .

COMBUSTIONEER'S

Modulating Controlled Stokers

SAVE FUEL! SAVE TIME! SAVE MONEY!

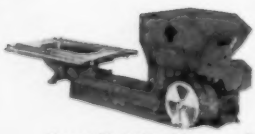
Combustioneer's "magic" Modulating Controls level off peaks and valleys in coal feeding, prevent over-firing and waste of coal! They keep more heat in the boiler . . . reduce stack losses . . . use less fuel during "off" periods . . . save operator's time . . . assure smoke-free stacks. They accomplish all this by *automatically* feeding coal and air to the fire at *variable* rates to meet exact load requirements.

Combustioneer Hopper and Bin-Feed Stokers range in capacity from 9 to 1000 lbs. per hour. Their rugged construction gives long life in hard service.

Write today for Architect's Heating Manual containing complete Combustioneer data and specifications.

Combustioneer Division
The Steel Products Engineering Company
1371 W. Columbia St., Springfield, Ohio

Bin-Feed Model No. 15



Hopper Model No. 50

Combustioneer

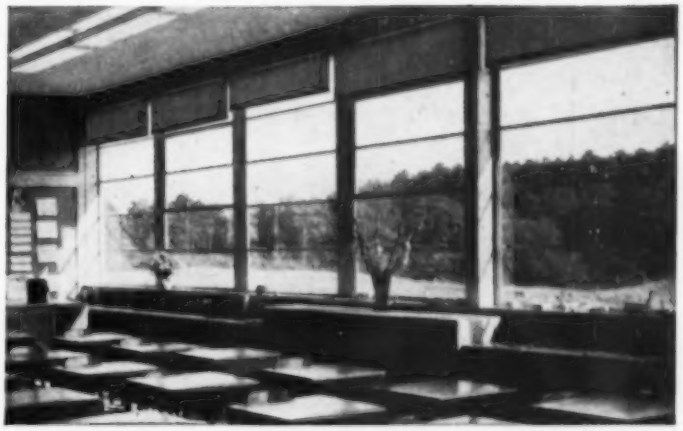
Gas Burners • High and Low Pressure Oil Burners • Oil Furnaces • Stokers • Humidifiers

Fenestra 50 YEARS OF BUILDING PRODUCT LEADERSHIP

"A salute to those who made it possible" *

Better daylight for every student . . .

Look at the wonderful "learning atmosphere" here. Fenestra* Intermediate Steel Windows fill this elementary school room with eye-easy daylight. They help create an open friendly feeling for students who study here. With Fenestra, you see, you get extra glass area per window, because the window frames are designed to be strong and rigid without being ponderous. And tilt-out vents give you controlled ventilation.



Elementary School at Kingston, Mass. *Architects:* Bogner & Richmond, Cambridge, Mass. *Contractors:* L. C. Blake Construction Co., Milton, Mass.

More architectural beauty inside and out . . .

Notice the clean, modern, architectural lines of this university science building with its Fenestra Intermediate Steel Windows.

Note: These windows will *always* look new and *they will never need painting!* They are Fenestra Super Hot-Dip Galvanized Steel Windows. They will save thousands of dollars in paint and painting labor and *they cost no more than ordinary steel windows with two inside-outside field coats of paint!*

Science Hall at St. Mary's University, San Antonio. *Architects:* Julian & White—San Antonio. *Contractors:* Lynn & Morsey—San Antonio.

For any size or style of school . . .

Here's an unusual Fenestra Window treatment in a college building.

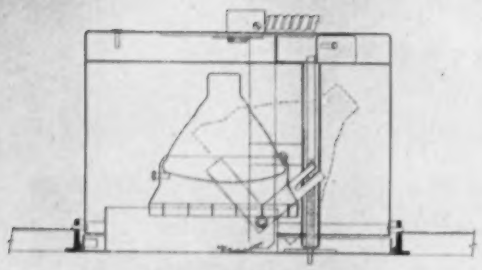
Fenestra Intermediate Steel Windows offer architects amazing flexibility of design. They offer students a better atmosphere in which to learn. And they help make any school a proud part of its community.

Check on Fenestra Today—Call your Fenestra Representative, listed in the yellow pages of your phone book. Or write Detroit Steel Products Company, Dept. PA-7, 3409 Griffin Street, Detroit 11, Mich. And ask for your free copy of *Better Classroom Daylighting.*

Continuing Education Building, Michigan State College, East Lansing. *Architect:* Lewis J. Sarvis, Battle Creek. *Contractor:* Reniger Construction Company, Lansing.

* Your need for windows that would give better school daylighting, protected ventilation and lower maintenance costs encouraged us to develop today's Fenestra Intermediate Steel Windows . . . a great advancement.

Fenestra | INTERMEDIATE STEEL WINDOWS



gotham's monopoint control

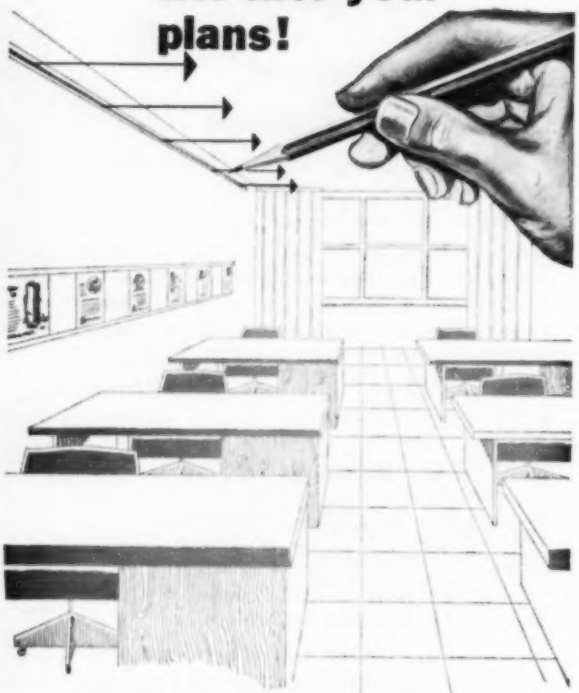
recessed accentlite no. 579

A notched broom-stick is all
that is needed to adjust this
monopoint control *unit.*
One external knob adjusts
both tilt (0° to 45°)
and rotation (358°).
No tools required.
No wrestling with hot lamps.
Accommodates 150 watt and
200 watt PAR side-prong lamps.
Note face-plate finishing flush
with plaster ceiling
makes unit inconspicuous.

for data:

gotham lighting corporation
37-01 thirty-first street
long island city 1, new york

See how inconspicuously STRIPLINE fits into your plans!



Unlimited air distribution provided by slender continuous diffusers ...another AGITAIR first!

Stripline diffusers offer complete application versatility. They are ideal for installation in shallow lighting coves...window stools for air curtaining of glass windows or exposed wall areas...side of furred beams... or as a decorative border blanketing the entire area with noiseless, draftless air distribution. Custom built with AGITAIR's patented diffusing vanes, Stripline diffusers create maximum mixing and aspiration... quick temperature equalization and correct air distribution over any desired length.

Write for your free copy of Catalog S-100 today.

AGITAIR STRIPLINE

AIR DEVICES INC.

185 Madison Avenue, New York 16, N. Y.

AIR DIFFUSERS • FILTERS • EXHAUSTERS

Fenestra 50 YEARS OF BUILDING PRODUCT LEADERSHIP

*"A salute to those who made it possible"**

PICK ONE UP IN EVERY DOORWAY

Up to $100 savings for every single door opening you fill with a Fenestra* Hollow Metal Door-Frame-Hardware Unit. *Compare* the installed cost of these Units with the cost of other hollow metal doors.

Here are four sound reasons why Fenestra Door Units can bring you such important savings:

1. *They cost less to buy* because you get production-line economy—not custom job costs. They are mass produced on special jigs that avoid expensive time and labor.
2. *They come to your job complete* with prefitted door, frame and hardware specifically made for each other. You save time because you *eliminate* planning, ordering and assembling special elements.
3. *You save on installation costs* because these complete units need no cutting, no fitting, no mortising or tapping. Each door is installed and in use in minutes.
4. *And you save year after year* on maintenance because Fenestra Hollow Metal Doors can't warp, swell, stick or splinter. They always open easily . . . smoothly. They close quietly because inside surfaces are covered with sound-deadening material.

For strong, solid quality at low cost, check on Fenestra Doors. There's a door for every purpose in the Fenestra line: Entrance Doors, Flush or Regular Interior Doors with glass or metal panels, Doors with the Underwriters' B Label. For pictures and details, write the Detroit Steel Products Company, Dept. PA-7, 3409 Griffin St., Detroit 11, Michigan.

* Your need for lower building costs encouraged us to develop a quality door unit that would save initial cost and installation cost—Fenestra Hollow Metal Door-Frame-Hardware Units . . . a great advancement in building products.

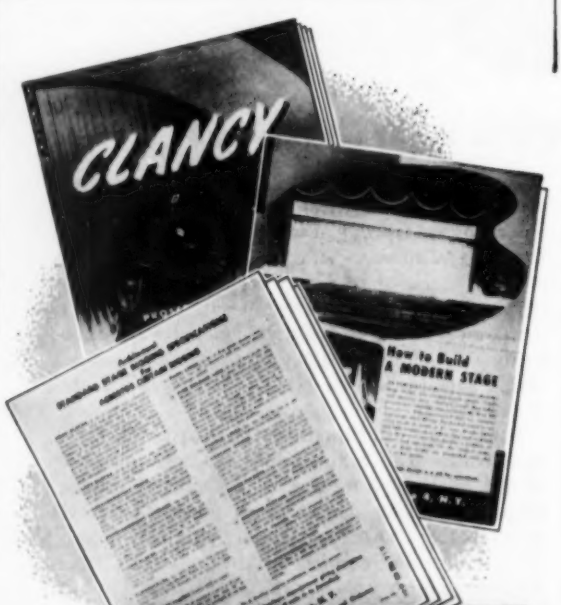
Fenestra | DOOR • FRAME • HARDWARE UNITS

Information Required in Designing a Modern Stage

With a background of 78 years of experience, we are ready to supply you with the information you need – prior to developing the steel plans – for the design of any type of modern stage, large or small. If desired, we can also follow through with the finished plans, all equipment and complete installation, including draperies, to make your design a beautiful and practical reality.

We give full consideration to such factors as safety, economy of space, simplicity of structural design, trouble-free operation, low maintenance and operating costs, and easy flexibility of setting to meet present and future needs – without limiting the desired esthetic effect.

Stage equipment is an important factor in overhead steel design. *Before* you start the steel plans, **SEND FOR FREE ENGINEERING and DESIGN SERVICE BOOKLETS.**



NO JOB TOO LARGE
•
NO JOB TOO SMALL

J. R. CLANCY INC.
1020 W. BELDEN AVE., SYRACUSE 4, N. Y.

KOOLSHADE® SUNSCREEN

Assures patient's comfort at Spokane Medical Center

Like many other progressive hospitals, the Medical Center at Spokane, Washington, chose KOOLSHADE SUNSCREEN as the first step toward air-conditioned comfort for its patients.

The thin, oxidized bronze louvers of KOOLSHADE SUNSCREEN block out up to 90% of the sun's heat rays and prevent eye-straining glare.

Ruggedly built and weather resistant, KOOLSHADE SUNSCREEN requires little or no maintenance, yet gives long-lasting service.

To find out more about KOOLSHADE SUNSCREEN protection for patients write Ingersoll Products Division, Borg-Warner Corp., 310 S. Michigan Ave., Chicago 4, Ill.

A PRODUCT OF BORG-WARNER

BW

Ingersoll KOOLSHADE® Sunscreen
A PRODUCT OF BORG-WARNER

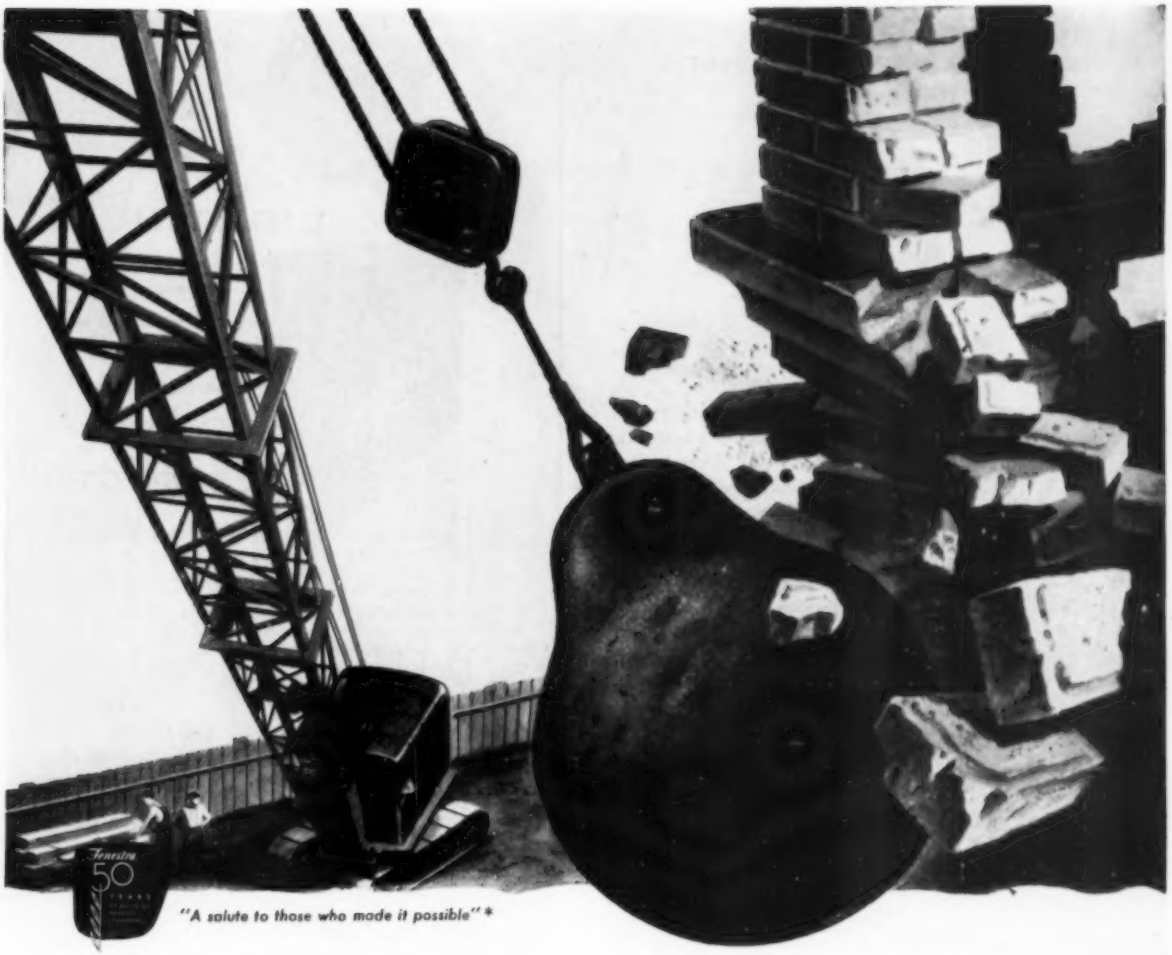
There is no substitute for

marble

The Marble Institute of America protects your heritage in one of America's great industries. Each of its members is pledged to provide the finest of materials, finished in America, by Americans, no matter what its source. You can depend on the integrity of your local M.I.A. member.

Literature is available to assist you in your contact with clients. For this, or technical data, or for a complete list of M.I.A. members, write the Managing Director:

MARBLE INSTITUTE OF AMERICA, INC.
108 FORSTER AVENUE, MOUNT VERNON, N Y



WILL YOUR BUILDING DIE OF ELECTRICAL STARVATION?

Will it be old *electrically* before it's completed?

Or will it be productive beyond its normal span because of its electrical flexibility? It *can be* — with Fenestra-Nepco Electrifloor — the structural floor system in which the sheet steel cells are used as electrical raceways.

With this advanced new floor system, new outlets can be installed *any time* . . . in *any* or *every* square foot of floor space. Your floor will welcome every future electrical demand.

And this new floor system saves building time, labor, materials and money!

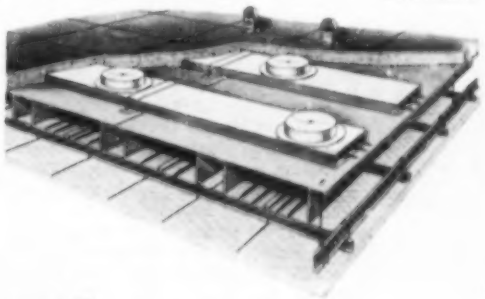
On one job, 1,000 tons of structural steel were saved because of Electrifloor's combination of great strength with light weight. Foundation costs were also cut.

On a rush job, it saved 6 months' building time—as many as 7 floors went in at once. As soon as a few of the cellular floor panels were laid and interlocked, they served as material storage space and working platform.

Fenestra-Nepco Electrifloor was developed jointly by Fenestra* (Detroit Steel Products Company) and Nepco (National Electric Products Corporation)—two great names in the construction field.

If *you* want to protect *your* building investment write to Detroit Steel Products Co., Dept. PA-7, 3409 Griffin Street, Detroit 11, Mich.

*Trademark



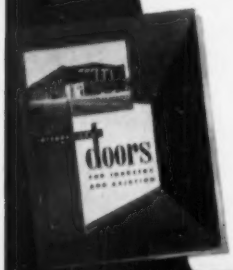
* Your need for electrical flexibility for the present and future of your building encouraged Nepco and Fenestra to develop Electrifloor . . . a great advancement in building products.

Fenestra Nepco | ELECTRIFLOOR

THIS COUPON BRINGS YOU BASIC DATA ON NEWEST ADVANCES IN INDUSTRIAL DOORS

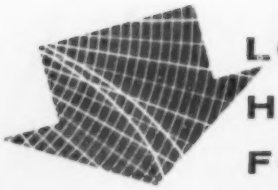
INTERNATIONAL STEEL COMPANY
2003 Edgar Street, Evansville 7, Indiana
Send me without cost or obligation my personal copy of your new handbook, "Doors for Industry and Aviation"

NAME _____ POSITION _____
FIRM _____
ADDRESS _____ ZONE ____ STATE ____
CITY _____



EVERY PAGE of this brand-new handbook is full of authoritative data on doors of *every* type and size, motorized or manually operated — for *every* industrial plant and aviation building requirement. You'll find this comprehensive reference mighty helpful to much of your entrance planning. Mail coupon *now*.

INTERNATIONAL STEEL COMPANY
EVANSVILLE 7, INDIANA



LOOK HERE FOR LIGHTING

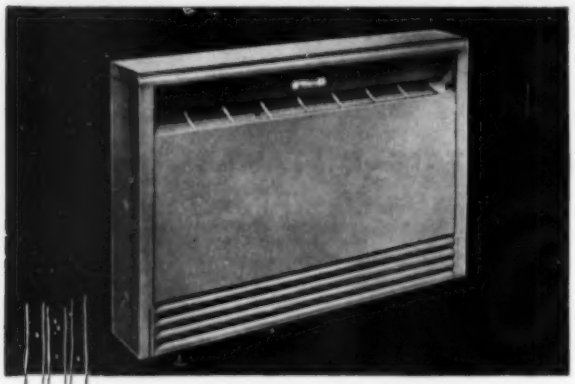
← FLUORESCENT
← INCANDESCENT
← FLOODLIGHTING
← COMMERCIAL
← INDUSTRIAL

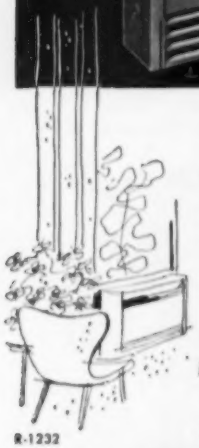
This new catalog gives you complete photometric, installation and construction data on one of the industry's most comprehensive lines of lighting fixtures.

District sales offices throughout the country and two centrally located manufacturing and distribution points insure you of experienced assistance and dependable supply.

For your FREE copy of this catalog write to:

ELECTRO SILV-A-KING CORP.
1535 South Paulina St., Chicago 8, Ill.
Fairfield & State Sts., Bridgeport 5, Conn.





R-1232

Superb styling . . .
Superb performance

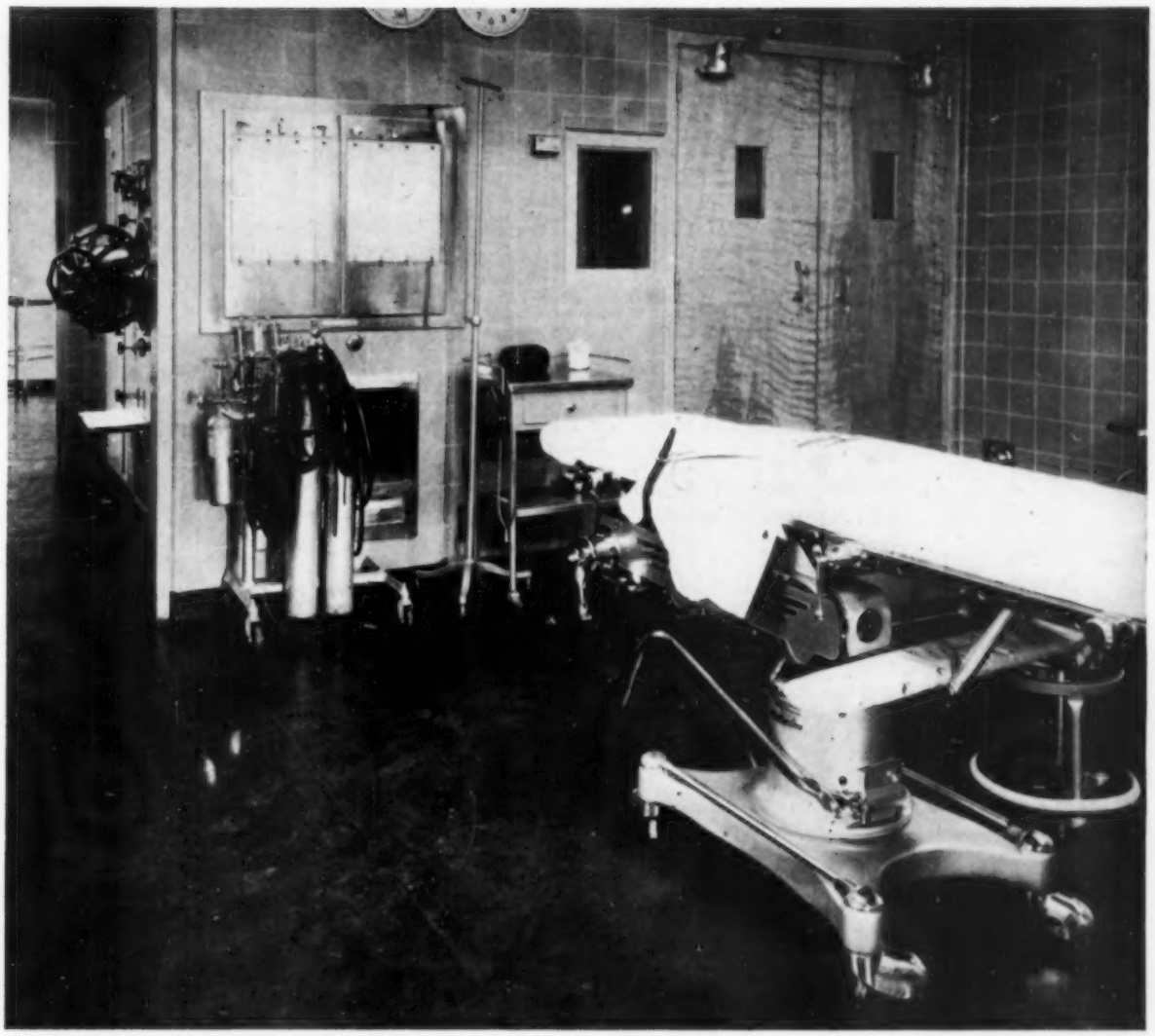
WHEN top architects and heating engineers want the finest in modern heating, they specify Modine Convector Radiation. Here's an unmatched combination of beauty, long life and uniform, healthful heating. Ask your Modine representative for full information — he's listed in the classified section of your phone book. Or write for Bulletin SA-54, Modine Mfg. Co., 1572 DeKoven Ave., Racine, Wis.

Modine
convector radiation

can FLUSH DOORS be "SCHOOL-CHILD PROOF"?

No school can afford flush doors that warp, sag and require constant maintenance. That's why Curtis New Londoner hollow-core flush doors are a lifetime investment in cost-saving durability. No other hollow-core doors have the patented all-wood locked-in and sealed core which makes the New Londoner a completely joined unit—with lasting dimensional stability—lasting beauty. Also made in solid core construction —in all sizes—several woods. Information and specifications are yours for the asking.

CURTIS NEW LONDONER
HOLLOW-CORE
FLUSH DOORS
CURTIS COMPANIES SERVICE BUREAU
Clinton, Iowa



Specify the only linoleum in the world that dissipates static electricity

Gold Seal Static Conductive Linoleum

For all surgical areas here is your best preventive for fatal anesthesia explosions. Gold Seal Static Conductive Linoleum was especially developed to help *eliminate* ignition of combustible gases by static sparks. It completely dissipates static electricity.

This special linoleum is remarkably low in cost . . . durable . . . slip resistant . . . sanitary . . . resistant to stains and comfortably resilient under foot. It carries the famous Gold Seal guarantee of satisfaction or your money back . . . the approval of the Underwriters' Laboratories, Inc. and the National Fire Protection Association . . . meets all specifications of the U. S. Ordnance Department Safety Bulletin #25.

From every point of view, Gold Seal Static Conductive Linoleum is the logical flooring choice for surgical areas.

For full information write: Architects' Service Dept.

GOLD SEAL®
FLOORS and WALLS
CONGOLEUM-NAIRN INC., Kearny, N. J. 1954

LINOLEUM • VINYL INLAIDS • CONGOWALL® • RANCHTILE® • LINOLEUM TILE • VINYLTILE • VINYLBEST TILE • CORK TILE • RUBBER TILE • ASPHALT TILE

BRIGHT IDEAS
in Commercial Lighting

New precision engineered fluorescent and slimline luminaires available for ceiling mounting suspended or continuous runs **write today for catalog**

in lighting it's **solux**

solux Corp., Dept. P, 1338 Inwood Ave., New York 52, N. Y.

New industrial floor for use over concrete
• Tough, durable hardwoods
• Extra thick (25/32 inch)
• Resists wear and abrasion
• Will not powder or dust
• Preserved for long-life
• Less wear and tear on power trucks
• Less damage to tools and parts
• Warmer and less fatiguing to workers
Write for folder and complete data
E. L. Bruce Co., Memphis 1, Tenn.
Bruce
BRUCE
DURA-WOOD BLOCK FLOORS

Mitchell FOLD·O·LEG tables

UNEQUALED in APPEARANCE DURABILITY STRENGTH

USED IN CHURCHES, SCHOOLS, HOTELS, INSTITUTIONS, CLUBS, LODGES AND INDUSTRIAL PLANTS

Convert any room into a Banquet or Group Activity Room... Set up or clear in minutes

QUICKLY FOLD or UNFOLD for Changing Room Uses

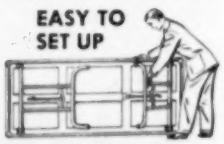
TOPS OF MASONITE PRESDWOOD, FIR & BIRCH PLYWOOD, LINOLEUM, RESILYTE PLASTICS

TUBULAR STEEL LEGS

MAXIMUM SEATING

MINIMUM STORAGE

EASY TO SET UP

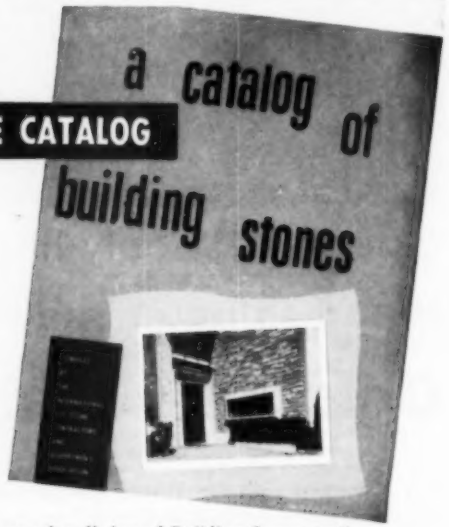


Send for folder with complete specifications.

MITCHELL MANUFACTURING COMPANY

2740 S. 34TH STREET • MILWAUKEE 46, WIS.

THE STRONGEST, HANDIEST FOLDING TABLE MADE!



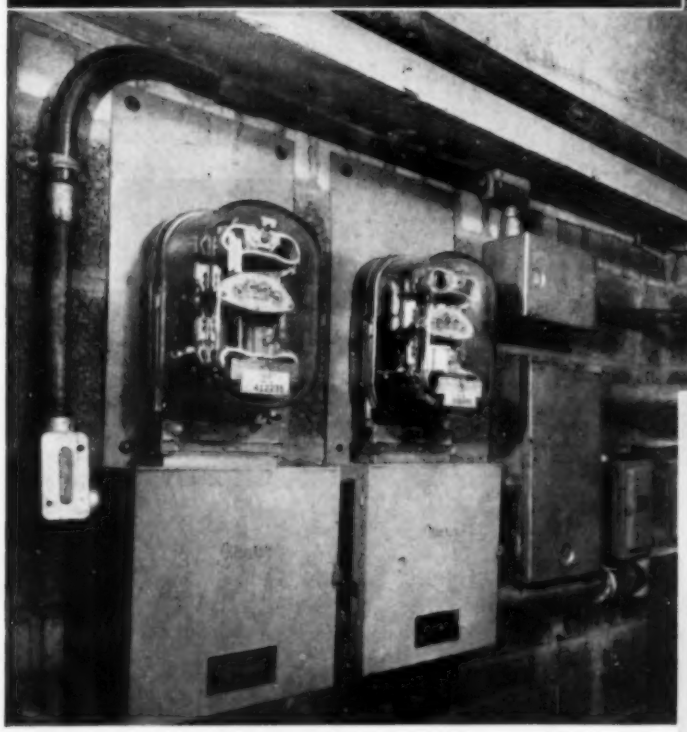
The first complete listing of Building Stones available in the United States and Canada, with full color photographs of every type of stone, detailed descriptions, characteristics and sources. Published by THE STONE COUNCIL and offered to architects, contractors and builders at no cost. Write to

STONE COUNCIL

A DEPARTMENT OF THE INTERNATIONAL CUT STONE CONTRACTORS' AND QUARRYMEN'S ASSOCIATION

1700 Summer Street, Stamford, Conn.

Upper Manhattan Medical Group Building, New York. Nememy, Geller & Yurchenco, Associated Architects.



WHY YOUNGSTOWN BUCKEYE CONDUIT IS BETTER

Youngstown is the one manufacturer who makes rigid steel conduit from ore to finished product. This enables Youngstown to control the complete manufacturing process—your insurance that each length of "Buckeye" is made of top-grade steel.

●The new Health Insurance Plan Clinic in the Upper Manhattan Medical Group Building, New York City, is another modern structure in which the electrical wiring is given sure protection of Youngstown Buckeye Conduit. Standard-threaded rigid steel conduit, of which Youngstown Buckeye is the leading brand, is the only wiring system approved by the National Electrical Code as moisture, vapor, dust and explosion proof in hazardous locations.

Youngstown

QUALITY YOUNGSTOWN SERVICE

THE YOUNGSTOWN SHEET AND TUBE COMPANY *Manufacturers of Carbon, Alloy and Yoloy Steel*

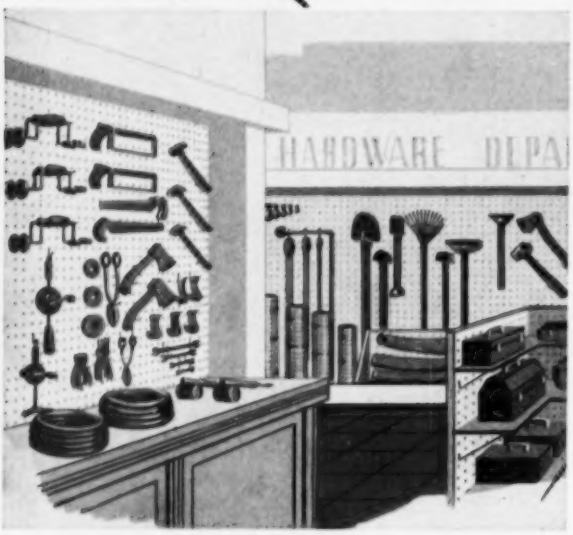
General Offices: Youngstown, Ohio - Export Office: 500 Fifth Avenue, New York 36, N. Y.

SHEETS - STRIP - PLATES - STANDARD PIPE - LINE PIPE - OIL COUNTRY TUBULAR GOODS - CONDUIT AND EMT - MECHANICAL TUBING - COLD FINISHED BARS - HOT ROLLED BARS - BAR SHAPES - WIRE - HOT ROLLED RODS - COKE TIN PLATE - ELECTROLYTIC TIN PLATE - RAILROAD TRACK SPIKES

Give your store plans **WORKING WALLS** with

PEG-BOARD

PANELS and METAL HANGERS



WRITE for complete details, samples and prices.

"PEG-BOARD" is the Reg. T.M. of B. B. Butler Mfg. Co., Inc., used to identify its products.

Copyright 1954 **B. B. BUTLER MFG. CO., INC.** 3151 Randolph St., Bellwood, Ill.

Best for Clients

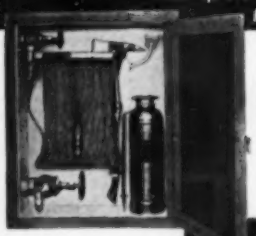
PROVED RELIABLE, ECONOMICAL

ALLENCO

INTERIOR

FIRE-PROTECTION EQUIPMENT

Complete Line — 480 Cabinets Alone Modern, Most Widely Used



Easiest for you

AIA file 29e2—Sweet's Arch. File—(see phone listing in principal cities)

SINCE 1887

W. D. ALLEN

Manufacturing Co.

CHICAGO 6 • NEW YORK 7

See Sweet's Architectural File or write direct for NEW folders giving complete technical data

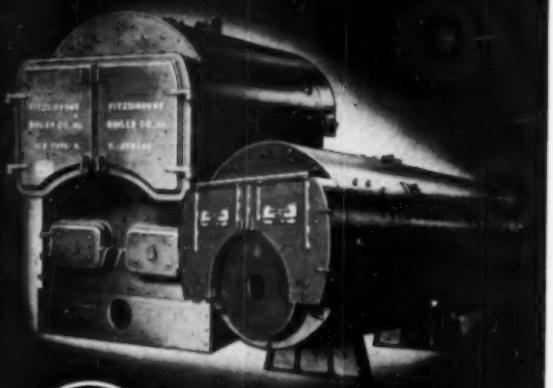
W. J. HAERTEL & CO.

832 WEST EASTMAN STREET, CHICAGO 22, ILLINOIS

*Reg. U.S. Pat. Off.

FITZGIBBONS

"the best in steel boiler heat"



SINCE 1886

Sizes from the small home to the largest structure. A.S.M.E. code steel construction—Hydrostatically tested—Hartford insurance inspected—S.B.I. code rated.

Fitzgibbons Boiler Company, Inc. 101 PARK AVENUE, NEW YORK 17, N. Y.

traditional

Architect: **Frank C. Dill, AIA**
Contractor: **Southern Lumber Co.**

To retain its original "French Quarter" charm, the pink brickwork of the Sterling Hogan, Sr. home in Houston, Texas, has been protected against efflorescence or staining by a silicone-based water repellent treatment.

WATER REPELLENT: SILIKON, MADE BY NAPKO PAINT & VARNISH WORKS.

or

modern

Architect: **Frank Lloyd Wright**
Contractor: **Wiltscheck & Nelson, Inc.**

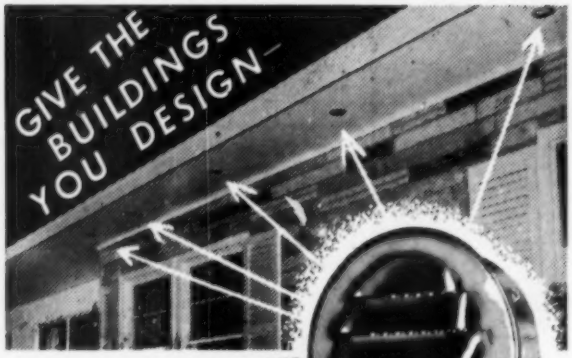
To preserve the original dramatic beauty of their Administration and Research Center against efflorescence and dirt streaks, S. C. Johnson & Son, Inc., of Racine, Wisconsin, applied a silicone-based water repellent treatment to the masonry sections of these buildings four years ago.

A water repellent treatment made with *Dow Corning Silicones* preserves the beauty, cuts maintenance costs

No matter the amount of surface area, no matter the type of masonry, weatherproofing treatments made with Dow Corning silicones help retain the "like new" appearance longer and at less cost. Completely invisible and non-plugging, silicones do not change the color or "breathing" characteristics of treated surfaces. Maintenance and upkeep costs are greatly reduced because staining, streaking, spalling and efflorescence are minimized or eliminated entirely. The treatments cost surprisingly little; remain effective for years.

Dow Corning silicone-based water repellents are now available from formulators and their distributors in every part of the country. Write Dept. EC-19 for more information and a list of suppliers. Dow Corning Corporation, Midland, Mich.

DOW CORNING
SILICONES



LIFETIME PROTECTION AGAINST THE MENACE OF MOISTURE!

Ventilate "danger spots" at soffits, eaves, gables, sidewalls, and unexcavated areas, and you put an end to the destructive dangers of condensation . . . paint blisters, rot, accumulated moisture. Midget Louvers are all-aluminum ventilating units that assure adequate air circulation always. Easily and economically installed, they stay on the job forever without attention. Made in 7 sizes (1" to 6") diameter, and 2 types (with and without vane deflectors). Both are screened to keep out insects.

Write for complete file data

MIDGET LOUVER CO.
6 WALL ST., NORWALK, CONN.

Fine flooring for every installation

MOULTILE

MOULTILE asphalt tile. Reinforced with plastic.

MOULFLEX vinyl plastic tile. In low cost standard gauge.

JUBILEE asphalt tile. Striking dots of color styling.

PARQUETRY asphalt tile. The rich effect of wood block at low cost.

Write for details
Dept. 9-7

Moultile FLOORING SINCE 1929

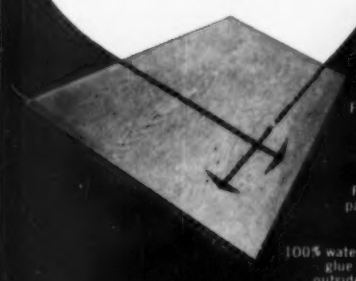
Moultile Inc.
Joliet, Ill. • Long Beach, Calif. • Newburgh, N. Y.

R20

Design with DFPA Grade-Trademarked

FIR PLYWOOD

1 Does More Jobs—Better
2 Gives Two-Way Strength
3 Lower In-Place Cost
4 Appearance Value
5 Tested Quality



SPECIFY BY THESE DFPA GRADEMARKS

For roof, wall sheathing, sub-flooring — PLYSCORD

For built-ins, paneling, etc. — PLYPANEL

100% waterproof glue for all outside uses — EXT-DFPA

See Sweet's File, Architectural, or
Write Douglas Fir Plywood Assoc., Tacoma 2, Wn., for 1954 Catalog

where you need **LEEWAY** *you want*

Josam LEVELEZE adjustable top FLOOR and ROOF DRAINS

The adjustable top with rolled thread is completely detachable from the drain body and permits lowering or raising the top to meet the finished floor or roof level before or after the drain body is set in construction. With other types of drains, it is necessary to tear out construction, disconnect pipe, make expensive repairs if the drain is set too high or too low. With Josam Leveleze Drains, the adjustment is simple . . . easy . . . quick!

Josam Series No. 3610
Leveleze Floor Drain

Josam Series No. 4550
Leveleze Roof Drain

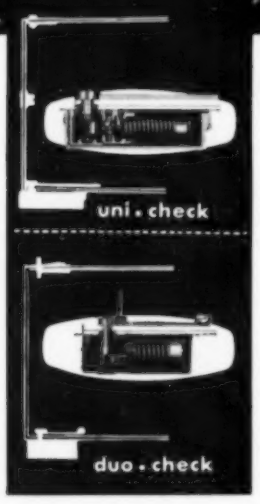
Write for literature

JOSAM MANUFACTURING COMPANY
DEPT. PA MICHIGAN CITY, INDIANA

all interior room doors too!

...should close automatically with RIXSON closers concealed in the rigid floor

installed, they really cost no more



- ***single acting*** RIXSON **UNI•CHECKS** ***for***
  School Classroom Doors • Hospital Patient Room Doors
  Office Room and Suite Doors • Toilet Room Doors • Cafeteria Doors
- ***double acting*** RIXSON **DUO•CHECKS** ***for***
  Hospital Supply Room Doors • Hospital Utility Room Doors
  Kitchen Entrance Doors • Stairwell Doors • Cafeteria Doors

CONCEAL THE CLOSER AND EXPOSE THE BEAUTY OF THE DOOR
No unsightly arms or mechanism exposed to tampering—or dust and dirt.

THE OSCAR C. RIXSON COMPANY
9100 w. belmont ave. • franklin park, illinois

for distinctive beauty in modern design

Magnalite obscuring-diffusing glass
manufactured by the Mississippi Glass Co.

In the new, modern offices of the Krochler Mfg. Co., Naperville, Illinois, handsome, functional Magnalite partitions add beauty and pleasant appeal to the working atmosphere.

Magnalite Glass gives privacy with maximum transmission of light. It is strong and durable and easy to work with . . . and it is easy to clean and *keep* clean. Available in type "A" (cylindrical type lenses approximately ½" O.C.), type "B" and "B" wired (approximately ¼" O.C.). Send for Brochure M-1954. Samples on request. *Magnalite is sold by leading glass dealers everywhere.*

J. Merrill Richards
25 Huntington Ave., Boston 16, Mass. *Magnalite*

Compare
WITH ALL OTHERS!
for Beauty, Durability and Economy

HASTINGS aluminum WALL TILE

22 Decorator Colors
PLAIN OR MARBELIZED
SIZES:
5" x 5"
5" x 10"
10" x 10"

Guaranteed by Good Housekeeping

Waterproof, fireproof, sanitary . . . won't crack, chip, peel or corrode. Lustrous enamel finish bonded to metal by scientific process. Easy to install on new or old walls. Inexpensive. Fully guaranteed. Send for samples and prices.

Write Today!

METAL TILE PRODUCTS, INC., Dept. 710, Hastings, Mich.
Send samples and complete information on HASTINGS wall tile. I am ☐ Architect ☐ contractor ☐ dealer ☐ distributor.
NAME_____
ADDRESS_____
CITY_____ STATE_____

for home planners everywhere!

The American House Today

by
KATHERINE MORROW FORD
Head of Public Relations, Knoll Associates; formerly Architectural Editor, House & Garden
and
THOMAS H. CREIGHTON
Editor, Progressive Architecture

The number-one book on America's number-one interest today . . . homes!

This beautiful new volume shows 85 BEST contemporary houses—from all sections of the country—complete with photographs, details and plans.

The houses shown are *truly today's*—all being built in the past lve years. Each house is selected for its demonstration of a unique principle of convenience, comfort, beauty or other special aspect. Included are houses typifying such considerations at indoor-outdoor relationships, expansion possibilities, individual or family requirements, provisions for hobbies or special pursuits, vacation houses, subdivision houses, country and city houses, flat land and hill site houses . . . scores of *livable* houses, each an expression of individual purpose and plan.

The book is replete with explanatory text and profusely illustrated with over 500 faithfully-reproduced photographs and detailed construction plans. The program, site, space organization, environmental influence, construction, materials, appearance and other basic factors relating to each house are fully described.

For circulation or reference, here is an important book for home-owners, architects, builders, designers, realtors, students and all those concerned with owning or improving houses.

239 Pages, with 500 illustrations $7.95

To examine tis book for 10 days FREE, mail coupon now

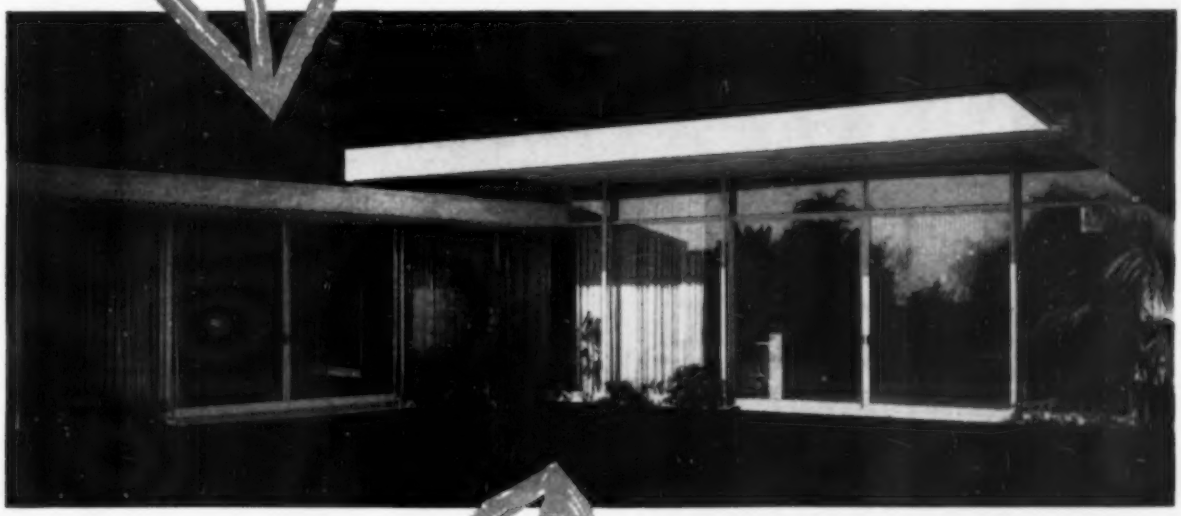
REINHOLD BOOK DIVISION
Dept. M-704, 430 Park Ave., New York 22, N. Y.

Please send me a copy of THE AMERICAN HOUSE TODAY @ $7.95.
☐ Remittance enclosed.
☐ Send on free 10-day examination.

Name .....
(Please print)
Address .....
City .....Zone .....State .....

NOTE: You save postage and delivery charges by sending payment with order. Same return privilege guaranteed. Include 3% sales tax on N.Y.C. orders.

Arislide steel sliding doors



ARISTON Metal Products
Since 1912

There's an Arislide door to fit your job! 5' to 24' widths, 6' 10" heights. Special types and sizes furnished to meet individual requirements.

You're assured of beauty and long life with trouble-free performance *every time* you specify Arislide doors. They're quality-built for homes, schools, and every construction use.

Roller bearing rollers for smooth operation.

Stainless steel-capped track, bronze hardware.

Spring bronze weather-stripped.

WRITE FOR CATALOGUE

Mail to: Michel & Pfeffer Iron Works PA
Arislide Steel Sliding Doors
Address: 212 Shaw Road, South San Francisco, California

Please send Arislide Steel Sliding Doors Catalogue

Your name _____

Firm _____

Address _____

City and State _____

N. K. Juvet, Mgr. Steel Window Div.

MICHEL & PFEFFER IRON WORKS • 212 SHAW ROAD, SOUTH SAN FRANCISCO, CALIFORNIA

DIFFICULT DESIGNS DEMAND "GUNITE"

Domed buildings, free form swimming pools, reservoir and canal linings—tough jobs demand "GUNITE." This versatile, durable, economical building material conforms to any specified shape ... gives a uniform coating of desired thickness ... affords savings in time, labor and materials ... is expertly adapted to your needs.

*pneumatically applied sand and cement

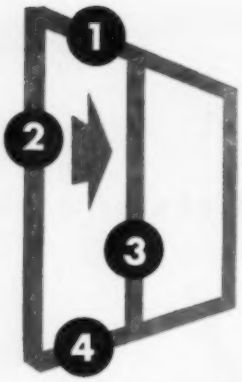
"GUNITE" ASSOCIATES, INC.

GUARANTEED PERFORMANCE THROUGHOUT THE SOUTH

Miami, Florida
7541 N.E. 3rd Place

Atlanta, Georgia
1013 Bouldercrest Dr., S.E.

Affiliate of BAILEY-LEWIS-WILLIAMS



EXCLUSIVE NEW WEATHERSTRIPPING for ARCADIA SLIDING DOORS

Greater protection than ever! New, improved weatherstripping, developed by Arcadia engineers, gives year-round comfort with steel-framed sliding glass doors. Write today for details of Arcadia weatherstripping for all four sides of doors.

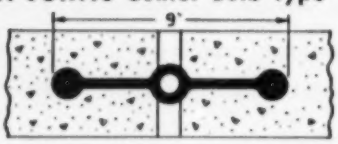
arcadia metal products
324 North Second Avenue
Arcadia, California

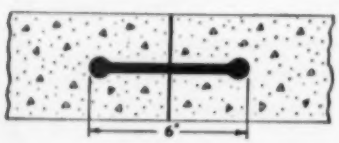
National Member of PRODUCERS' COUNCIL, INC.

Servicised Rubber WATERSTOP

FOR EXPANSION JOINTS Center Bulb Type

Servicised Rubber Waterstops meet all standard engineering specifications. Made of durable, elastic, cured rubber compound.



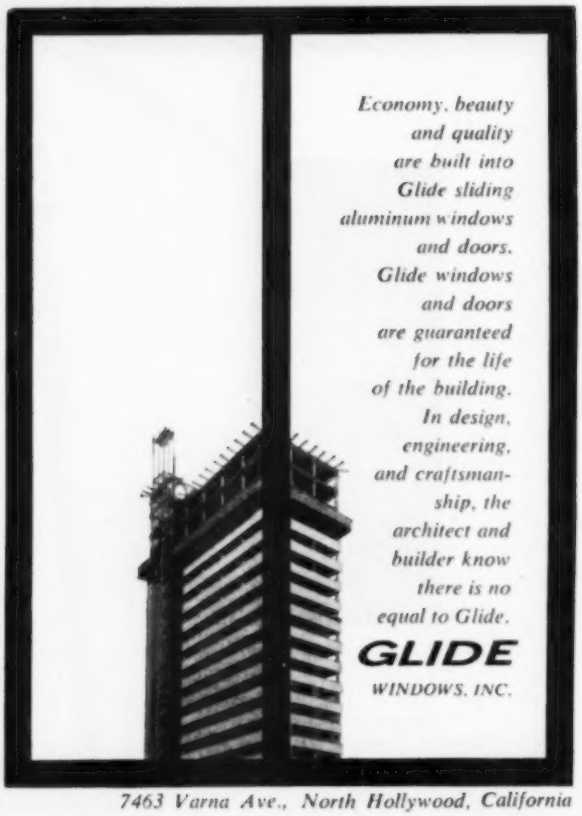


For EXPANSION AND CONSTRUCTION JOINTS FLAT TYPE

Both types available in 6", 9" and 12" widths in any required length.

Write for the Servicised Products Catalog. Sent without obligation.

SERVICISED PRODUCTS CORP.
6051 W. 65th St. • CHICAGO, ILL.



Economy, beauty and quality are built into Glide sliding aluminum windows and doors. Glide windows and doors are guaranteed for the life of the building. In design, engineering, and craftsmanship, the architect and builder know there is no equal to Glide.

GLIDE
WINDOWS, INC.

7463 Varna Ave., North Hollywood, California

GREAT WESTERN PLAINS BUILDING, LUBBOCK, TEXAS / ARCHITECT: DAVID S. CASTLE CO.

permanently eliminated

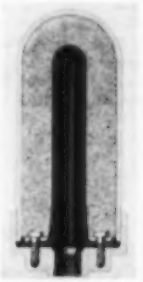
with the NEW Josam

SHOCK ABSORBER

simple...trouble-proof...easy to install!

• Now, you can provide permanent protection against the annoyance and destructive action of water hammer — with the new Josam Shock Absorber. Water hammer is unpredictable. It happens in the finest installations — it happens without warning! It is a common problem on pipe lines where there are quick closing faucets and valves, spring operated mechanisms and similar devices.

The new Josam Shock Absorber gives you "hospital quiet" in all plumbing lines. Due to the specially designed Absorbo tube and insert, the Josam Shock Absorber dissipates the thrust and impact of the water entering the tube. As the shock recedes, the tube and insert regain their original form, ready to receive the next shock impulse. To eliminate water hammer permanently . . . specify them on all piping installation. Send coupon for descriptive literature.



Cutaway view showing Absorbo tube and insert in normal position.

Showing how Absorbo tube and insert expand to absorb shock.

Series No. 1480

JOSAM MANUFACTURING COMPANY
DEPT. P. A. • MICHIGAN CITY, INDIANA
Please send free copy of new folder on Shock Absorbers

NAME ..... BUSINESS .....

FIRM .....

ADDRESS .....

CITY ..... ZONE ..... STATE .....

JOSAM MANUFACTURING COMPANY

GENERAL OFFICES AND MANUFACTURING DIVISION
MICHIGAN CITY, INDIANA

Representatives In All Principal Cities

West Coast Distributor
JOSAM PACIFIC CO., San Francisco, Calif.

Canadian Manufacturers
JOSAM CANADA LIMITED, Toronto, Canada

DIRECTORY OF PRODUCT ADVERTISERS

Adam, Frank, Electric Co. 181
Aerofin Corp. 20
Aetna Steel Products Corp. 195
Air Devices, Inc. 206
Alan Wood Steel Co. 158
Allen, W. D., Mfg. Co. 214
Aluminum Window Mfrs. Assn. 165
American Abrasive Metals Co. 164
American Brass Co. ..... Back Cover
American-Olean Tile Co. 124
American Radiator & Standard Sanitary Corp. Plumbing & Radiator Heating Div. 46
Andersen Corp. 156, 157
Anemostat Corporation of America.. 3rd Cover
Arcadia Metal Products 220
Art Metal Co., The 69

Bakelite Co., Div. of Union Carbide & Carbon Corp. 173
Bayley, William, Co. 197
Benjamin Electric Mfg. Co. Leader Div... 155
Besser Mfg. Co. 191
Bolta Corp. 132
Bradley Washfountain Co. 153
Briggs Mfg. Co. 52
Bruce, E. L., Co. 212
Bull Dog Electric Products Co. 144
Butler, B. B., Mfg. Co., Inc. 214

Carrier Corporation 166, 167
Ceco Steel Products Corp. 162, 163
Celotex Corp. 66
Certain-Teed Products Corp. 40
Certified Equipment Manufacturers, Ballasts Mfrs. 169
Chase Brass & Copper Co. 194
Clancy, J. R., Inc. 208
Combustioneer Div., The Steel Products Eng. Co. 204
Committee on Steel Pipe Research of the American Iron & Steel Institute 44
Congoleum-Nairn, Inc. 211
Connor Engineering Corp. 148, 149
Crawford Door Co. 13
Crucible Steel Co. of America 159
Curtis Companies Service Bureau 210

Douglas Fir Plywood Association 216
Dow Corning Corp. 215

Eastman Kodak Co. 200
Electro Silv-A-King Corp. 210
Erie Enameling Co. 16

Facing Tile Institute 152
Federal Seaboard Terra Cotta Corp. 65
Federal Windows, Inc. 51
Fenestra Building Products 205, 207, 209
Fitzgibbons Boiler Co., Inc. 214

Glide Windows, Inc. 220
Glynn-Johnson Corp. 57
Goodrich, B. F., Flooring Div. 198
Gotham Lighting Corp. 206
Grinnell Co., Inc. 55
Gunite Associates, Inc. 220

Hachmeister, Inc. 189
Haertel, W. J., & Co. 214
Hardwood Products Corp. 160
Hauserman, E. F., Co. 1
Haws Drinking Faucet Co. 22
Hillyard Chemical Co. 203
Hope's Windows, Inc. 61
Horn, A. C., Co., Inc. 25

Infra Insulation, Inc. 8
Ingersoll Products Div. 208
Inland Steel Products Co. ..... 2nd Cover
International Cut Stone Contractors' & Quarrymen's Assn. 212
International Steel Co. 210

Johns-Manville Corp. 202
Johnson Service Co. 63
Josam Mfg. Co. 216, 221
Just Mfg. Co. 43

Kawneer Co. 18, 19, 39
Kennatrack Corp. 180
Kentile, Inc. 68
Kewanee-Ross Corp. 140
Kewaunee Mfg. Co. 24
Keystone Steel & Wire Co. 174, 175

LCN Closers, Inc. 142, 143
Libbey-Owens-Ford Glass Co. 21, 134
Lighting Products, Inc. 48
Lone Star Cement Corp. 70
Louisville Cement Co. 177

Macomber, Inc. 186
Mahon, R. C., Co. 5
Marble Institute of America, Inc. 208
Masonite Corp. 64
Medart, Fred, Products, Inc. 47
Mengel Co. 41
Metal Tile Products Inc. 218
Michel & Pfeffer Iron Works Inc. 219
Midget Louver Co. 216
Minneapolis-Honeywell Regulator Co. 34, 35
Mississippi Glass Co. 67
Mitchell Mfg. Co. 212
Modine Mfg. Co. 210
Monsanto Chemical Co. 193
Mosaic Tile Co. 37
Moultile, Inc. 216

National Terrazzo & Mosaic Assn., Inc... 168
Nesbitt, John J., Inc. 14
New Castle Products, Inc. 23

Overhead Door Corp. 38
Overly Mfg. Co. 62
Owens-Corning Fiberglas Corp. 36

Philippine Mahogany Association, Inc... 171
Pittsburgh Plate Glass Co...42, 138, 184, 185
Pittsburgh Reflector Co. 141
Powers Regulator Co. 53, 187
Pyle-National Co. 6

Reinhold Publishing Corp. 176, 188, 218, 223
Revere Copper & Brass Inc. 58, 59
Reynolds Metals Co. 178, 179
Richards, J. Merrill 218
Rixson, Oscar C., Co. 217
Rotary Lift Co. 28, 29
Russell & Erwin Div. 182, 183

Schacht Associates, Inc. 2
Scott Paper Co. 170
Seaporcel, Inc. 17
Servicised Products Corp. 220
Simpson Logging Co. 30, 31
Sjöström, John E., Co. 150
Smithcraft Lighting Div. 56
Solux Corp. 212
Soss Mfg. Co. 137
Southern Sash Sales & Supply Co. 161
Sparta Ceramic Co. 180
Staedtler, J. S., Inc. 154
Steelbilt, Inc. 11
Steelcraft Mfg. Co. 147
Sterling Hardware Mfg. Co. 171
Sylvania Electric Products, Inc. 136

Truscon Steel Div. 26, 27
Tuttle & Bailey Inc. 60

Ualco Aluminum Windows 161
Union Carbide & Carbon Corp., Bakelite Co. 173
United States Gypsum Co. 32, 33
United States Quarry Tile Co. 146
United States Rubber Co. 49
Universal Atlas Cement Co. 192
Upco Co. 204
Uvalde Rock Asphalt Co. 131

Van Noorden, E., Co. 172
Versen, Kurt, Co. 154
Vonnegut Hardware Co. 201

Wakefield, F. W., Brass Co., The 54
Wasco Flashing Co. 199
Washington Steel Corp. 50
West Disinfecting Co. 190
Western Lock Mfg. Co. 151
Wilson Engineering Corp. 188

York Corp. 196
Youngstown Sheet & Tube Co. 213

Zonolite Co. 45

330 West Forty-Second Street, New York 36, N. Y. BRyant 9-4430

BRAD WILKIN, *Publisher*

NEW YORK OFFICE:
EDWARD D. BOYER, *Eastern Sales Mgr.*
HAROLD D. MACK, JR., *New England District Mgr.*
WM. B. REMINGTON, *N. Y.-N. J. District Mgr.*

FRANK J. ARMEIT, *Production Manager*

CLEVELAND OFFICE:
815 Superior Ave., N.E., Cleveland 14. Prospect 1-5583
JOHN W. BATTLES, *Central Sales Mgr.*
JOHN F. KELLY, *District Mgr.*

H. I. SIROTA, *Promotion Manager*

CHICAGO OFFICE:
111 W. Washington St., Chicago 2. RAndolph 6-8497
DAVID B. HAGENBUCH, *Western Sales Mgr.*
R. J. CLAUSSEN, *District Mgr.*
WILLIAM R. EVANS, JR., *District Mgr.*

WEST COAST ADVERTISING REPRESENTATIVES
San Francisco, Calif.—Duncan Scott & Co., Mills Building Garfield 1-7950
Los Angeles, Calif.—Duncan Scott & Co., 2978 Wilshire Blvd., Dunkirk 8-6151

A Momentous Publishing Event . . .

THE ARCHITECT AT MID-CENTURY

The Report of the A.I.A. Commission for the Survey of Education and Registration in Two Volumes

HERE, available for the first time, are the highly interesting results of one of the most comprehensive surveys ever undertaken on a single professional group!

Issued as two separate volumes, this valuable report examines and evaluates the facts about:

1. **The architect of today and how he practices his profession,**
2. **The significant sociological trends of the past, present, and predictable future, with regard to their effect on architecture and design.**

These books are definitely "must" reading for every architect who realizes the importance of not merely keeping up with the times, but also of seeing into the future without the help of a crystal ball.

You will surely want both volumes eventually. Better order both now and save $1.75 by so doing. The convenient coupon below will bring you either or both volumes to examine for ten days entirely ON APPROVAL. You can then decide, *after* seeing and examining them, whether or not you wish to keep them. Clip and mail the coupon now.

Volume I

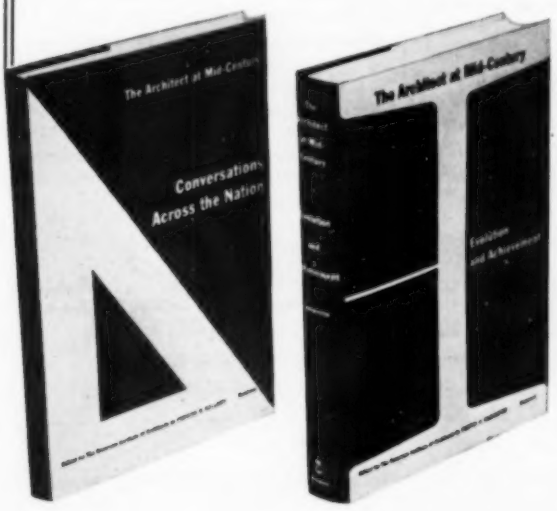
EVOLUTION AND ACHIEVEMENT

Edited by TURPIN BANNISTER

This first volume analyzes the vast amount of data collected by the Commission, and offers penetrating glimpses into the accomplishments already achieved by the architectural profession and the goals still to be attained.

With scores of helpful charts and tables, this volume traces the evolution of architectural education and registration; outlines the conditions, methods, and organization of present-day practice; and discusses the role of the A.I.A. as a medium of professional coordination at the national, state, and chapter levels.

Throughout the book there are many specific recommendations for improving educational courses and facilities, and for continuing growth in professional competence among practicing architects.



Volume II

CONVERSATIONS ACROSS THE NATION

Edited by FRANCIS R. BELLAMY

This unusually interesting volume records the discussions between members of the A.I.A. Commission and ten regional groups of community leaders on three highly pertinent, thought-provoking questions:

1. **What kind of society do you foresee in the future? Will the trend toward collectivism in England, Western Europe, and Asia extend to the Western Hemisphere, or will the system sometimes referred to as democratic free enterprise be strengthened on this half of the globe?**
2. **How will the social organization of the United States of the future affect the physical form of buildings and the growth of cities, towns, and rural areas?**
3. **What should the basis of preparation of men and women for professional leadership be in such a society, with special reference to the place of architecture in that society?**

Informative answers to these questions are given by scientists, housewives, newspapermen, engineers, cattlemen, bankers, lawyers, educators, and businessmen. Read, in their own words, what these non-architects think about the future of our country, our cities and buildings, and the education of architects and other professional people.

Vol. I	**544 pages**	**6" x 9"**	**$8.75**
Vol. II	**272 pages**	**6" x 9"**	**5.00**

Special Combination Price for BOTH Volumes—$12.00

MAIL FOR FREE EXAMINATION

REINHOLD PUBLISHING CORP., Dept. M-700
330 West 42d Street, New York 36, N. Y.

Please send books checked below ON APPROVAL. Within ten days I will either return books and owe you nothing, or will remit amount indicated, plus postage.

- ☐ **The Architect at Mid-Century, Vol. I $8.75**
- ☐ **The Architect at Mid-Century, Vol. II 5.00**
- ☐ **BOTH of above volumes, at special combination price of only $12.00 (a saving of $1.75).**

Name .....

Address .....

City .....Zone....State.....

☐ SAVE POSTAGE. Check here if you ENCLOSE payment, in which case we pay postage. Same return privilege applies.

P.S.

Last week was a very busy one, both at the office and socially. Out-of-town visitors seem to arrive all at the same time—we're always glad to see them and don't want to miss any of them; and these visits usually seem to coincide with local social events. Some architects on-the-loose pass through breezily, like "Spitz" Spitznagel, who simply called up one evening to get the name of the best Japanese restaurant in town—and some add to our own knowledge of the town, like Mrs. Carl Warnecke, who spent a morning tracking down the pickled whale which I didn't know was displayed in a midtown parking lot. The reasons for their being here are various: Peresutti, from Milan, is supervising the new Fifth Avenue Olivetti showroom; a group of our Cuban friends are working with Sert & Weiner on a housing project for Havana; from Texas, the MacKies and the Kamraths arrived with the usual fabulous Texas reason—in this case, a party thrown by a Houston client at *21*, in New York, with the guests flown up.

By Saturday night of last week I was in a state, more confused than usual, which didn't seem to be entirely explained by the whirl of activities, or even the series of annual P/A sales and editorial meetings that had added to the week's pleasures. On Sunday morning I knew that I was sick—and from then until this writing I've been in bed, not wanting to move, running a very neat temperature, the subject of kindly care and solicitation by my sweet wife and a professional person who has kept popping in and out of my consciousness. My mind, at the time the fever began to rise, had been filled with tales of architectural practice (always collecting case histories, you know, even at a party) and the role of this individual—actually a kindly and efficient doctor—became confused in my clouded vision.

"We have to make a thorough programmatic study of your problem," he seemed to say. "A diagnosis, so to speak. We have to study exactly how you function, and what your needs are, before we can design something as a solution."

This seemed vaguely familiar to me, but I brushed it off with a comment that at the moment I *wasn't* functioning.

"That's just it," he said smugly. "You see a human being is developed by organic growth. You know how a building grows—organically? Well, that's just the way we design people."

This seemed vaguely distorted to me, but as he had stuck a thermometer in my mouth, I could only nod agreement.

"Of course there is one school of thought," he added, "that holds the structural, skeletal form is predominant. Doctor Van der Sullivan, the famous 19th Century diagonstician, for instance, based a treatment method on the premise that *function follows form*."

He took out the thermometer, glanced at it and shook its telltale mercury back from the height to which it must have climbed. As he applied various gadgets to various limbs, listened, watched, and tapped, he went on:

"But others feel that a statistical analysis of circulation arteries and flow of related requirements is the safest method of program development. It was formulated by a French physician, Dr. Crow, who started from the thesis that the human body is a machine for living with. A machine, held off the ground by stilts, or legs, which he called pilotis. Very revolutionary philosophy! He never cured a patient, but all the schools use his theories today."

By now I felt that I must indeed be ill, and I was glad to see him go, with his instruments, which looked to me like a great roll of blueprints, under his arm.

"I shall be back," he said, "with a preliminary solution. One of my junior associates—a design specialist—will go over this data. We'll have the answer for you in no time."

How long I dozed—hours, or days—I don't know. But the man was back when I opened my eyes.

"Well, we have the diagnostic program fully analyzed, and are ready with our recommendation," he said.

I expressed mild interest.

"First of all, you'll be glad to know, since budget is always a consideration in these problems, that we feel sure we won't have to build a new structure."

I expressed greater interest.

"No, we feel sure we can remodel, refurbish, and alter the old to make it practically as good as new. The frame is OK."

He gave the frame a thump.

"So now we're ready to get down to working details and specifications. This will take some time, you know. A remodeling job is very tricky—you never know what you're going to run into as the work goes on."

•

He dictated his specifications over the phone to the local druggist. I was, I am afraid, too weak to demand competitive bidding. I do remember asking if I might see a presentation drawing or a model of the finished result he hoped for.

"We don't do that any more," he explained. "Oh, I do have a model in the closet in my office, that I made back in school days, from miscellaneous parts, but we'd prefer to have our clients have trust in us. We don't want to start an argument about styles. So many people still want traditional, you know, while we prefer the lean, angular, almost ascetic, modern type. Not so well protected, maybe, but if we check on it periodically, we can keep it in good, well-functioning condition. For us, we might say, less is more."

I was thinking this over as he left. His final words were, "I'll be back from time to time for supervision trips. As the job progresses you may see more and more of the job captain assigned to this project, and less of me; but I'll be available whenever you want me. Got to go inspect a job now where the superstructure cracked, and the supports are unsteady. Goodby."

I went back to sleep.

Thomas H. Creighton

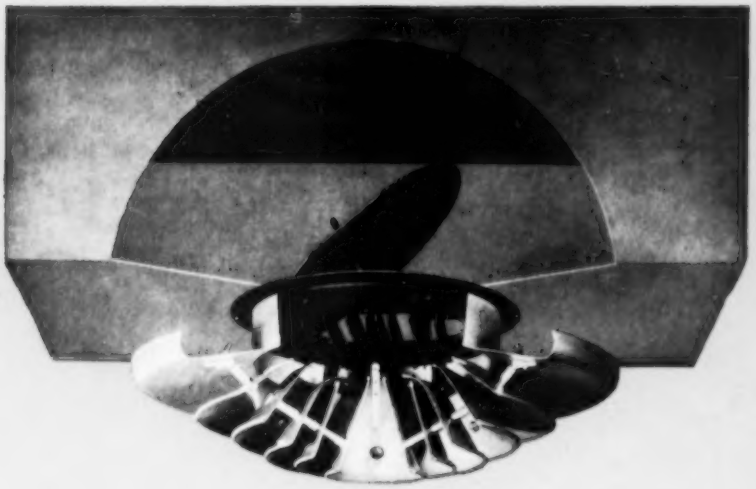
Here's a <u>new</u> way to cut costs and save time on

duct take-off installations!

ANEMOSTAT®

COMBO-UNIT COMBINES

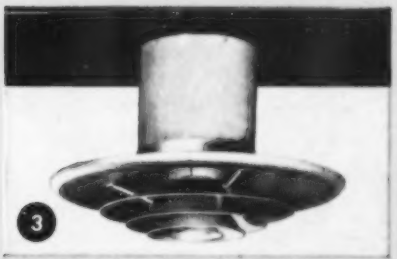
{ **VOLUME CONTROL**
ANGLE RING
EQUALIZING DEFLECTOR



Easy, Quick Installation

Cut Hole in Duct

Fasten Combo-Unit



Fasten Take-Off and Air Diffuser or

Fasten Air Diffuser to the Combo

Anemostat's NEW Combo-Unit is a combination volume control, angle ring and equalizing deflector. ***This prepackaged unit cuts installation costs in half.*** Extra rings, screws and odd parts are not required. Installation time is reduced to a minimum, and it's a cinch to install. • Use Anemostat Combo-Units on your next job.

ANEMOSTAT®

DRAFTLESS *Aspirating* AIR DIFFUSERS

ANEMOSTAT CORPORATION OF AMERICA

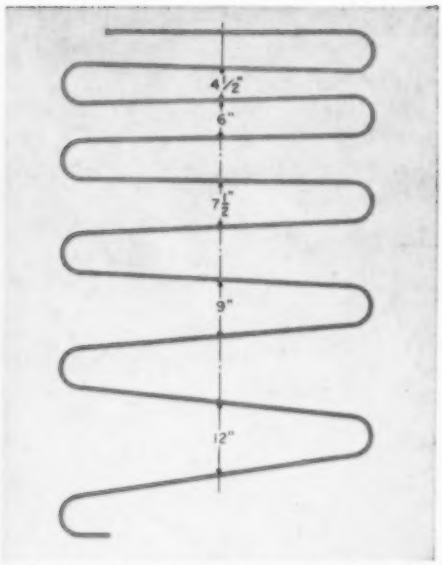
10 EAST 39th STREET, NEW YORK 16, N. Y.

REPRESENTATIVES IN PRINCIPAL CITIES

AC 1310

"No Air Conditioning System Is Better Than Its Air Distribution"

PG's are lightweight and easy to handle. They come packed in cartons, ready to install.



Center-to-Center spacing is readily adjusted to design requirements.

PG's are straight and true—no sags or dips—make plastering easier.

For your next radiant heating job—specify PG's

Now radiant panel heating systems are more practical than ever... in rust-free copper tube. PG's** (Panel Grids)—a new development by The American Brass Company—are the reason why.

PG's are the *only* standard-size radiant panel heating grids that are *factory formed*... ready to install. Shipped in a figure-8 bundle, they open readily to a flat sinuous coil pattern. They do away with slow, tiresome on-the-job bending and awkward "stringing up" of coiled tubing.

⅜" PG's contain 50 feet of ⅜" nominal (½" O.D. actual) Type L ANACONDA Copper Tube and come *preformed* to common 6" c-c spacing. You can contract or extend them easily by hand to meet all desired spacing requirements within a range of 4½" to 12" c-c.

½" PG's consist of 50 feet of ½" nominal (⅝" O.D. actual) Type L tube formed to a 9" c-c spacing and are also easily hand-adjustable to all c-c spacing from 6" to 18".

Try PG's on your next job! See for yourself how they make installation easier, faster—and better. For more information about this revolutionary new development in panel piping, write for Publication C-6. *The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ont.*

**Patent Applied For

5409A

ANACONDA®

Copper Tube PRE-FORMED Panel Grids for Radiant Panel Heating